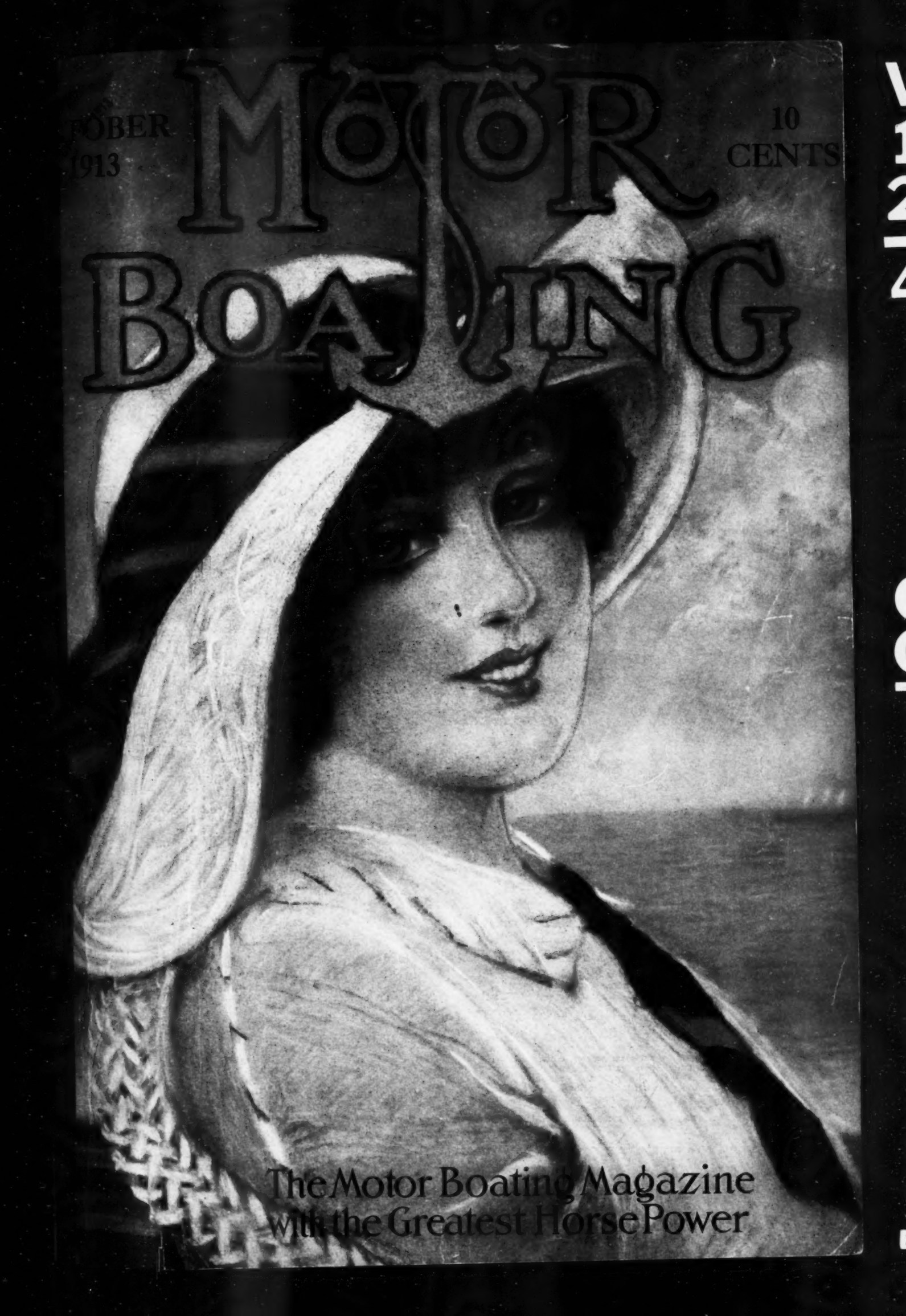
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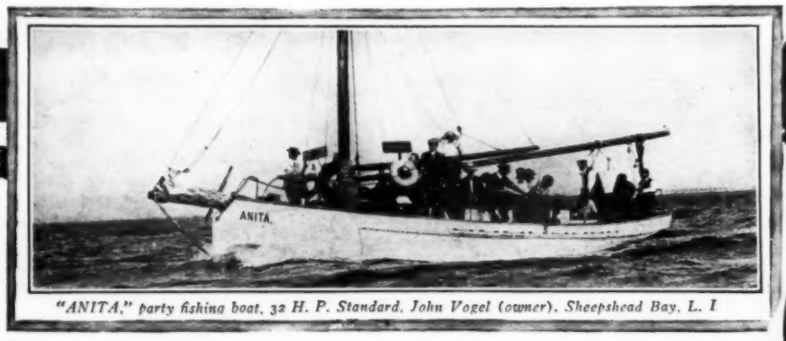
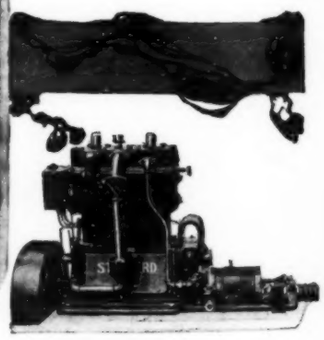



*"ANITA," party fishing boat, 32 H. P. Standard, John Vogel (owner), Sheepshead Bay, L. I*



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***Adjustable Bronze Bearings***

Despujols I, of the French team, and Maple Leaf IV, the winner in a close race.

# How the British Won.

## The Story of the Defenders' Fine Achievement in the Tenth Race for the Harmsworth Trophy. The Consistent Performance of the American Challengers.

*By J. Rendell Wilson.*

MoToR BoatinG's Special Representative at the Races.

**We heartily congratulate England on her splendid victory in the International Races, September 10th, 11th and 12th. The wonderful performance of Maple Leaf IV in winning the Trophy for the second consecutive time is a credit to any nation. The phenomenal speed of the French boats was a surprise to every one and for short distances both of them showed as great a speed as the winner. America may take great pride in the truly wonderful running of the boats of the American team—Ankle Deep and Disturber III, and the true sportsmanship displayed by their owners, Count Mankowski and Commodore Pugh. Without question it was the best balanced team of the three in the contest and favorable comment was heard on all sides as regards the impression which they made while abroad.**

**It is to be regretted that there seems to be considerable question as to the true length of the course and we must admit that by comparison of speeds of reliable boats, there seems to be an error somewhere, so while we give herewith the speeds given out by officials of the races, yet we should not be taken as an authority on the subject, or understood to be placing our O. K. to these records.—The Editor.**

YE GODS, what racing! Never before did man see so many high-powered craft tearing through the water at one time, and never before have such speeds been attained by any boats other than flying machines. The speeds attained by Maple Leaf IV, England's champion, and by the two French boats, Despujols I and Despujols II, are simply astounding. It is almost asking too much to believe that Maple Leaf IV averaged 56.4 miles per hour over a 32½-nautical-mile course, and 58.5 m.p.h. over one 5-mile round. Impossible, the reader will at once exclaim! Yet on the second day, when this record was made, Ankle Deep (said her owner, Count Mankowski, to me after the race) was never running better and her Sterling engines were working beautifully, and all will agree with me that this boat is good for well over 40 knots. Despite this she finished over three minutes behind Maple Leaf IV, maintaining a speed of 52.5 miles per hour for the course and the best she ever did before in America during her two years of racing was only about 45 miles per hour.

Has the course been accurately measured, was every one's cry? Yes! stated the officials, it has been most carefully surveyed and checked by a London firm of compass adjusters, three times in all. However, there was a good strong tide one way and a back wash the other, and possibly this helped the speeds some. The weather conditions were perfect and on the first day the water was as smooth as glass, and only a slight ripple on the second and third days. This, as all owners of hydroplanes well know, is just ideal. But even then, what a contrast between the first race for the Trophy in 1903, when Napier I won at 19½ knots! During the last few years there has been much wild talk about a "mile-a-minute" clip, and now we apparently nearly have it. It will be easy to tell if the course is inaccurate, which it seems it must be, in a few days' time when the Sea-Mile Record contest for the Heins Cup will be held over the Admiralty nautical mile. Let us hope that the water conditions will be exactly

## Summary of the Three Races for the British International Trophy.

### ELAPSED TIMES—FIRST RACE.

| Boat. | 1st Round. Mins. | Sec. | 2nd Round. Mins. | Sec. | 3rd Round. Mins. | Sec. | 4th Round. Mins. | Sec. | 5th Round. Mins. | Sec. | 6th Round. Mins. | Sec. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANKLE DEEP (American) | 7 | 30 | 14 | 34 | 21 | 35 | 28 | 41⅗ | 35 | 40 | 42 | 41⅗ |
| DISTURBER III (American) | 7 | 22 | 18 | 20 | 69 | 1 | Finished afterwards and saved her time— | | | | | |
| DESPUJOLS I (French) | 7 | 19 | 14 | 28⅗ | 21 | 33 | 28 | 30 | 35 | 18⅗ | 55 | 39 |
| DESPUJOLS II (French) | 7 | 6⅘ | 13 | 43 | 21 | 4 | 27 | 55⅗ | 34 | 48⅗ | 41 | 34 |
| MAPLE LEAF IV (English) | 7 | 44⅗ | 14 | 51 | 21 | 45 | 28 | 29 | 35 | 13⅗ | 41 | 50 |
| CRUSADER (English) | 25 | 30⅗ | 35 | 42⅗ | 43 | 42⅗ | 52 | 45 | 62 | 04 | 71 | 14⅗ |
| IZME (English) | 7 | 27 | 14 | 41 | 21 | 51⅗ | 29 | 7⅗ | 36 | 20 | 43 | 33 |

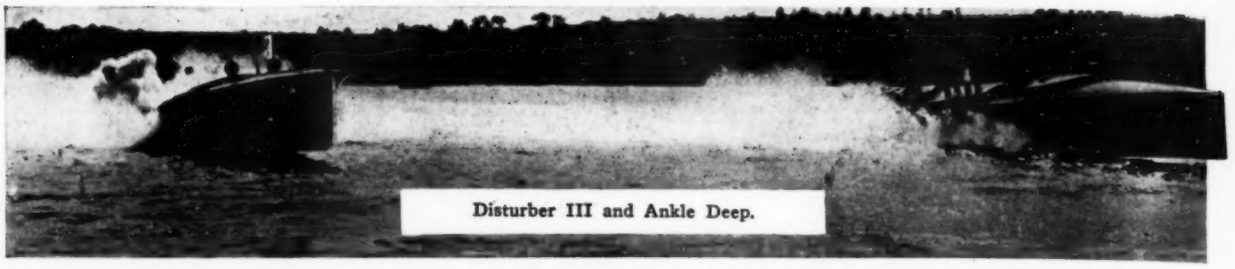
### SECOND RACE.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANKLE DEEP | 7 | 28⅕ | 14 | 32 | 27 | 37 | 28 | 40⅗ | 35 | 45⅘ | 42 | 52 |
| DISTURBER III | 7 | 23⅕ | 14 | 36 | 21 | 48 | 29 | 4⅗ | 36 | 12⅘ | 43 | 24⅕ |
| DESPUJOLS I | 7 | 2⅗ | 13 | 24 | 19 | 46⅘ | 26 | 54⅕ | 35 | 27⅕ | 42 | 48 |
| DESPUJOLS II | 6 | 53⅗ | 13 | 17 | 19 | 39⅘ | Broke down and gave up | | | | | |
| MAPLE LEAF IV | 7 | 2 | 13 | 25⅗ | 19 | 51 | 26 | 15⅗ | 32 | 46 | 39 | 28⅗ |
| CRUSADER | 8 | 0 | 15 | 37⅘ | 23 | 42 | 33 | 27 | 42 | 0 | 50 | 41 |
| IZME | 7 | 34 | 14 | 52⅘ | 22 | 10⅗ | 29 | 30 | 36 | 48 | 44 | 8 |

### THIRD RACE.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANKLE DEEP | 7 | 31⅖ | 14 | 44⅗ | 21 | 56⅗ | 29 | 4⅗ | 36 | 17⅕ | 43 | 29 |
| DESPUJOLS I | 13 | 29⅕ | 20 | 10⅕ | 27 | 34⅕ | 34 | 50⅗ | 42 | 10⅖ | Gave up | |
| MAPLE LEAF IV | 6 | 35⅗ | 13 | 7⅖ | 19 | 40 | 26 | 18 | 33 | 18⅘ | 40 | 10⅖ |
| CRUSADER | 7 | 41 | 15 | 18⅗ | 22 | 58 | 30 | 43⅖ | 38 | 18⅗ | 46 | 30 |
| IZME | 9 | 57 | 17 | 50 | 26 | 1⅗ | 37 | 25 | Gave up | | | |

Each round—5.4 sea miles. Total distance—32.4 sea miles. (See note above.)



Disturber III and Ankle Deep.

**The American team—Disturber III, owned by Commodore James A Pugh, of Chicago, and powered with two, three hundred H. P. Van Blerck motors; and Ankle Deep, powered with two, one hundred and fifty H. P. Sterling motors, and owned by Count Mankowski of New York.**

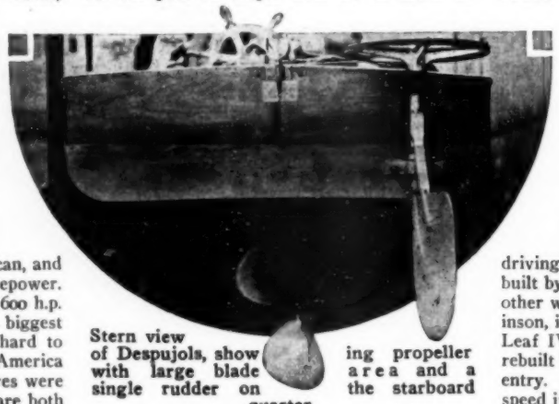
similar! And the same boats will compete and show that the length of course was correct.

Racing commenced on Wednesday, August 10th, and was held each consecutive day. The course was laid off in Osborn Bay, where the Royal Motor Yacht Club's headquarters, the vessel Enchantress was moored; also Sir Thomas Lipton's steam yacht Erin, which, through the kindness of that jovial sportsman, was made the ommittee boat, and where we of the journalistic world didst congregate. The course was practically elliptical in shape, and was formed of eight angles marked by boats. Each round is 5.4 nautical miles, and six laps in all, making a total distance of 32.4 nautical miles. The International Committee was as follows: Mr. Hale Thompson, of the M. B. C. of America; the Comte de Faramond, of the Automobile Club of France; Mr. F. P. Armstrong, representing Lord Northcliffe, the donor of the trophy, and Capt. J. E. Pearce, of the Royal Motor Yacht Club. The race committee was formed of members of the latter club, while Mr. R. B. Robinson represented the British Motor Boat Club. As an extra prize the Society of Motor Manufacturers and Traders presented the winner with a fine silver cup, standing 23½ inches high, and weighing 147.7 ounces.

As I have just said, never before have so many high-powered motor craft raced together. There were seven in all—three English, two American, and two French, and all were over 300 horsepower. Disturber III and Maple Leaf IV had 600 h.p. and 750 h.p. respectively, and were the biggest of the fleet, being 40-footers. It is hard to write it, but there is no doubt that America was outclassed. Her two representatives were not fast enough. True it is that they are both last year boats, but then so is Maple Leaf IV. Each of the first two days the latter made a very bad start, yet she sprang ahead of Disturber III and Ankle Deep like a bolt from the blue. On the fifth round of the second day Maple Leaf IV actually lapped Disturber III. However, the two American owners put up a magnificent race and deserved better luck. Being astern, naturally they had to contend with the broken water and wash of the leading craft. I must not omit to say that they were much faster than the other two British defenders, namely, Crusader and Izme, from which so much was expected. For her length and power Ankle Deep is the most efficient all-around boat, and each day ran like clockwork.

Count Casimir Mankowski and Mr. J. H. Pugh were at the helm of Ankle Deep and Disturber III; Mr. Robins, the helmsman of old Pioneer, was steering Izme; Mr. Tom Sopwith was in charge of Maple Leaf IV; Mr. Manvelle was at the wheel of Crusader, while M. Victor Despujols steered Despujols I, and M. Maurice Coulumb ran Despujols II. Although the French challengers were the smallest craft competing, each carried three men aboard, the helmsman and two mechanics, and the heavy weight seemed to have no effect on the speed, so highly powered were they for their length. Each had a 400-h.p. motor installed.

The French adopted a very ingenuous scheme to win, and this, apparently, is the plan. Despujols I is the faster of the two, and is most reliable at three-quarter speed, so Despujols II set the pace to Maple Leaf IV in order to force the Englishman to the utmost, even at the risk of breaking down herself. This did not matter so long as Despujols I was going strong just in the rear of Maple Leaf IV. But the cleverest of schemes often go astray, and, although all went well on the first day, in the second contest Despujols II set a terrific pace and on the fourth round suddenly broke down, and could not even finish. Now was the time for the arrangement to work, and for Despujols I to spurt ahead. She did for a few minutes and simply flew along the water. But, alas, she couldn't keep it up, for she also had an accident. Two of the exhaust pipes broke away, badly cutting one of the mechanics. This did not stop her from finishing the race at a terrific speed. If she could have maintained the speed that she made for a few hundred yards when she opened up she would have won easily, and there would have been no third race.



**Stern view of Despujols, showing propeller with large blade area and a single rudder on the starboard quarter.**

## THE WINNING BOAT.

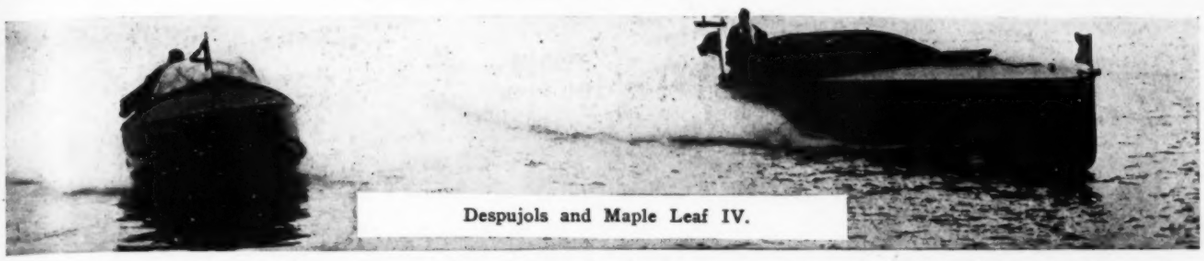
Maple Leaf IV—Owner, Mr. E. Mackay Edgar. This is the same boat as won the trophy last year from the United States, and the third different Maple Leaf that has raced in American waters. Maple Leaf III of 1911 was a Thornycroft hydroplane, and Maple Leaf III of 1910 was a Burgoine designed displacement boat. Two different boats with the same name. The present craft is a 40-footer of the Fauber multiple-step type, built by Sam Saunders, of Cowes, on his famous sewn-system, out of the same log of timber that the undefeated Ursula was made of, a magnificent piece of mahogany that had been lying at the London Docks for 20 years before old Sam's eagle eye spotted it. Her engines are two twelve-cylinder V-type machines, 7½-inch bore by 7-inch stroke turning at about 1,400 r.p.m. and geared down to 1,200 r.p.m. Each develop about 375 b.h.p. They are installed right aft, and are arranged side by side, driving twin screws. One of the motors was built by the Orleans Company, in 1910, and the other was constructed by Dixon Bros. & Hutchinson, in 1911. Before installing them in Maple Leaf IV last year, however, they were entirely rebuilt by the Austin Motor Company, of Coventry. She planes beautifully, and at high speed just lifts her stern clear of the water, and it is a joy to watch her gliding through, or rather along, the water. She exhausts at aft through the transom and is provided with mufflers. Her average speed for the three races for the trophy last year, *i. e.*, a total distance of 90 sea-miles, was 33.66 knots, and her best single five-mile round, 37.97 knots, although in the elimination trials that year her average speed was 40.4 knots.

## THE FIRST DAY.

At 2:30 P. M. the starting gun was given on the Erin. Izme was the first over the line, with Despujols I a few yards astern literally leaping along. The sister boat was but a couple of lengths

Ankle Deep, America's Old Reliable.

**The first American boat to finish in each of the three races. Ankle Deep was designed by Tams, Lemoine & Crane, of New York City, and built by the Staten Island Shipbuilding Co.**



Despujols and Maple Leaf IV.

**This French boat which is practically an exact duplicate of the other French entrant, is 26 feet in length and powered with one, four hundred H. P. six cylinder motor. Maple Leaf IV, the winner of the Trophy, is a 40-foot Fauber design, built by Saunders, and is powered with two, three hundred and seventy-five H. P. Austin motors.**

astern traveling even faster. Then came Disturber III and Ankle Deep, Maple Leaf IV, and Crusader. The latter two made very bad starts, and, through being late, Maple Leaf IV lost the first race. Crusader had trouble with her magneto and was 17 minutes late going over, the leading boats then being on their third round.

On the second lap Despujols II was leading her sister by 13 seconds; Disturber III by 12 seconds; Izme by 21 seconds; Ankle Deep by 22 seconds, and Maple Leaf IV by 38 seconds. Unfortunately, Disturber had trouble with her carbureter on the second round, and on the third round was over half an hour late. She eventually finished slowly in order to qualify for the following race. The boats were tearing through the water, leaving long silver streaks of foam astern. It was obvious that records were being made, accurate or inaccurate the course. Even if the speeds are not what they are supposed to be, there lies the dominant fact that most of the craft traveled as they have never traveled before. Towards the end of the third round Maple Leaf IV moving magnificently, despite a slight engine trouble, slowly gained on the leaders, and on fourth and fifth rounds passed one boat after another until she had only Despujols II ahead. Could she do it?—the excited spectators cried, as she glided smoothly along, her throttle opened wide. No! The little French glider had too good a start, and bang went the gun at 3h. 11m. 34s., and the tri-colored flag fluttered merrily in the slight breeze to show that France had secured the first honors. A hearty cheer was given M. Coulumb as he shot by, having averaged 46.7 knots or 53.8 miles per hour. Maple Leaf IV lost by 16 seconds only, but her actual speed was even better, it being 46.8 knots. Despujols I was next followed by Ankle Deep, Izme and Disturber III. Ankle Deep made a splendid race, and suffered no disgrace by being beaten by superior power.

## THE SECOND DAY.

The wonderful speeds of yesterday have been the talk of the previous evening and morning, and great has been the chaff hurled at the officials regarding the distance of the course. But they stick to their guns and maintain that everything has been done to ensure accuracy. So let not the world scoff too much. A little drifting of each of the eight mark boats, a strong favorable tide, and smooth water has much to do with the wonderful results. Whatever the actual speed, the boats moved as I have never seen the like of. Izme attained an average speed of nearly 39 knots in the elimination trials, yet she was nowhere in the running for the prize, and the same may be said of Crusader. Both boats ran well to-day, as did Ankle Deep and Disturber III, but neither of the four are fast enough by five knots.

When the gun went again exactly at 2:30 P. M. Ankle Deep made a magnificent start, clearly followed by Izme, Despujols II, Disturber III, Despujols I, in the order named, all within five seconds of each other. Crusader and Maple Leaf IV were well astern, the latter being 31 seconds late over the line, or 11 seconds after the leading boat. But she dashed along at a terrific pace, her engines emitting a muffled roar, contrasting with the rattle of a battery of maxim guns of the open exhausts of the French and American challengers. Like a streak of lightning she passed Izme, Crusader, Ankle Deep, and Disturber in quick succession, and when passing the line on the finish of the second round was but a quarter of a mile astern of Despujols I. The order for the next two rounds was the same except that Ankle Deep passed Disturber III and that the distance between the various competitors increased. On the fourth round Maple Leaf IV passed M. Victor Despujols, and then came the excitement. Despujols II, the leader, increased the pace to her own undoing in the endeavor to force Maple Leaf IV. The attempt was very unsuccessful, for Tom Sopwith had judged the situation nicely, and had reserve power in hand. But not so Despujols I, which broke down completely and was towed home and so barred from racing on Friday.

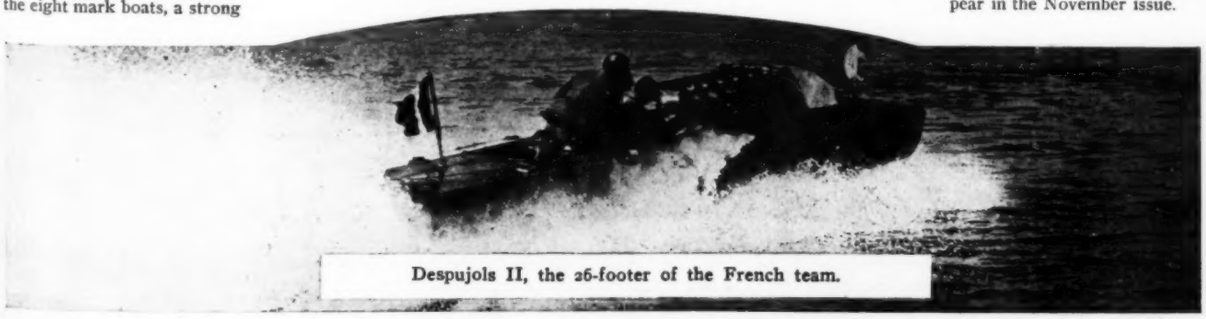
**The four hundred H. P. six cylinder motor of the Despujols. These motors have a bore of five inches and a stroke of ten inches.**

Seeing that his partner was "hors-de-combat," M. Victor Despujols opened up the throttle of Despujols I wide. She responded beautifully, and the little boat leaped out of the water, the 400-h.p. engine belching forth flames. Speed! Shades of the Ark! She moved some, at least for a few hundred yards, and was rapidly overhauling the English hydroplane; then the unexpected happened, namely, the accident to one of the exhaust pipes previously referred to, and she dropped back to her former steady, but still high speed. Consequently, Maple Leaf IV ran past the Erin to her winning gun at 3 hr., 9 min., 28⅗ seconds, having covered the course in the record time of 39 min., 28⅗ sec. Her best lap speed was No. 7, namely, 6 min., 22 sec. A resounding cheer from a thousand throats greeted her; syrens blared and flags wagged and bobbed, and "Britannia Rules the Waves" was sung and well might they, for it was a race magnificently and skillfully run and won. Despujols I was second, with Ankle Deep but 4 seconds astern, followed by Disturber III, Izme, and then Crusader.

## THE THIRD DAY.

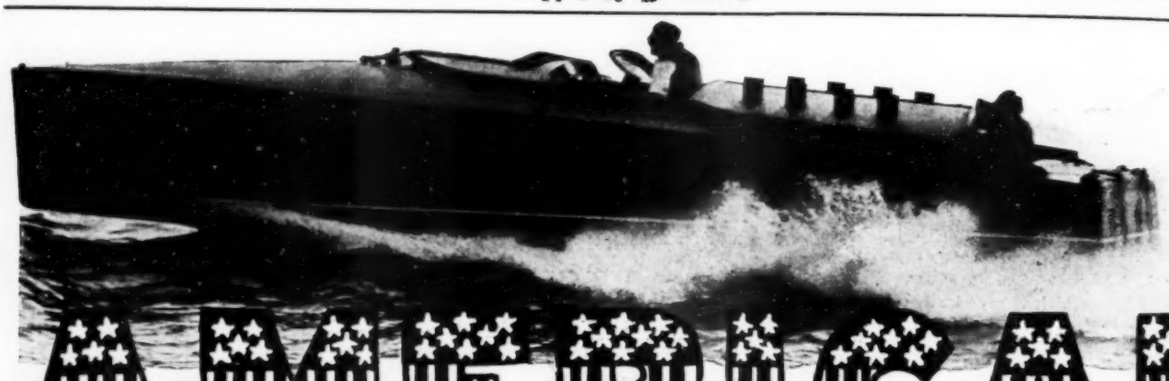
To-day a magnificent start was spoiled by five boats crossing before the gun fired. Ankle Deep was the first over, but was recalled and put about. Then Despujols, Disturber III and Izme flew over almost neck and neck, alas, too soon, and were also recalled by numbers, and the steam syren, but only Izme heard and the others continued to dash full speed ahead. Consequently, their times for the first round did not count. Maple Leaf IV and Crusader crossed instantly the gun went, while Ankle Deep and Izme made fresh starts. Disturber III had engine trouble and gave up on the second lap after the winner had received her gun. Izme also gave up. Despujols, unaware of the fact that she was officially a lap astern of Maple Leaf IV was putting up a fine race just a few hundred yards astern. Ankle Deep also ran splendidly and finished second, less than three minutes behind Maple Leaf IV, who again won the trophy for England.

NOTE.—Unfortunately space limitations prevent us from printing a full description of all the boats, but these will appear in the November issue.



Despujols II, the 26-footer of the French team.

**The French boat, which won the first race, is owned by M. Maurice Coulumb.**



# AMERICAN

## CONSISTENCY UPHELD

# ANKLE DEEP

### America's Most Consistent Hydroplane

MAINTAINS an average speed of 45.38 miles per hour in the three races for the Harmsworth Cup held off Cowes, England, September 10th, 11th and 12th, proving herself to be the fastest and most consistent boat ever entered by the Motor Boat Club of America to compete for this classic trophy.

Read the story of the races and then remember that "ANKLE DEEP" is a last year's boat with last year's engines and that her power plant has not even been sent back to the factory for overhauling. Her best speed on this side was 45 miles per hour. She did even better than this in each of the three hard-fought battles at Cowes, running the 32.4 mile course the first day at an average of 1.19 minutes per mile, the second day the same time and the third day 1.20 minutes per mile; giving an average speed per mile for the 97.2 miles of 45.38 miles per hour.

This boat also won the Gold Challenge Cup at Alexandria Bay, winning three consecutive races in just the same consistent manner and making a perfect score, removing this famous cup from the Thousand Islands, where it has rested for nine years.

ANKLE DEEP is a 32-ft. hydroplane designed by Tams, Lemoine & Crane and built by the Staten Island Shipbuilding Co. She is powered with two STOCK model 150-H.P., eight-cylinder, 5½" x 6¾" STERLING engines, these being two of the first motors of this design built by the Sterling Factory, having been shipped early in 1912. The 1913-1914 model of this same engine has many improvements and develops a full 25% more horsepower.

The consistent performance of ANKLE DEEP, TOCSAM II, and other famous STERLING-powered boats has been one of the prominent features of motor boat racing for this season. It is a feature which promises for the future greater results, higher speeds and more enthusiasm for what is already the greatest sport in the world.

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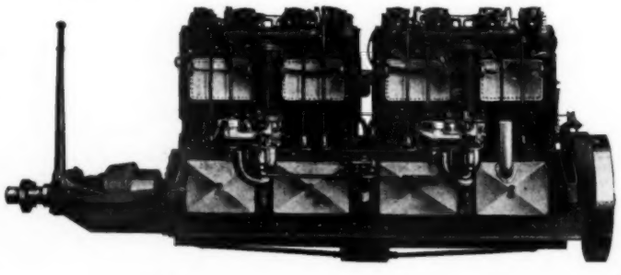

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# CONTENTS

## October 1913


Oregon Kid at Keokuk.....Frontispiece

Making Records at Buffalo..... 3

The Growing Popularity of the Motor Yacht..... 6

Ignition Circuits ..... 8

Santanta, a 90-Foot House Yacht..... 10

On the Mississippi ..... 12

Chicago's Second Carnival ..... 13

Following the Winter Sun ..... 14

**New Motor Boats—**

Niagara—A Big One..... 17

A Boat for River Service ..... 18

A Speedy 55-Foot Runabout ..... 18

A Comfortable 65-Footer ..... 19

A Real 40-Foot Cruiser ..... 20

A High-Speed Cruiser..... 20

A 64-Footer ..... 21

An Able 30-Foot Cruiser ..... 22

A 60-Foot Twin-Screw Express Cruiser..... 22

An Off-Shore Cruiser ..... 23

A 60-Foot Shoal Draft Boat..... 24

A Boat with Unique Features..... 25

Santa Maria, Built for Coastwise Work..... 26

A Pacific Coast 36-Footer..... 27

**Prize Contest in Questions and Answers—**

Putting a Boat Out of Commission..... 28

Protecting the Bow and Stern..... 31

Storing the Life Preservers..... 31

Devices and Stunts..... 33

Among the Clubs..... 34

Records of Important Races..... 36

Letters from Motor Boating Readers..... 37

Hints for the Motor Boatmen..... 39

**Marine Motors—**

Remington, Doman, Roberts, and San Francisco Standard ..... 40

New Things for the Motor Boatman..... 42

Motor Boats of Stock Design..... 44

Yard and Shop..... 45



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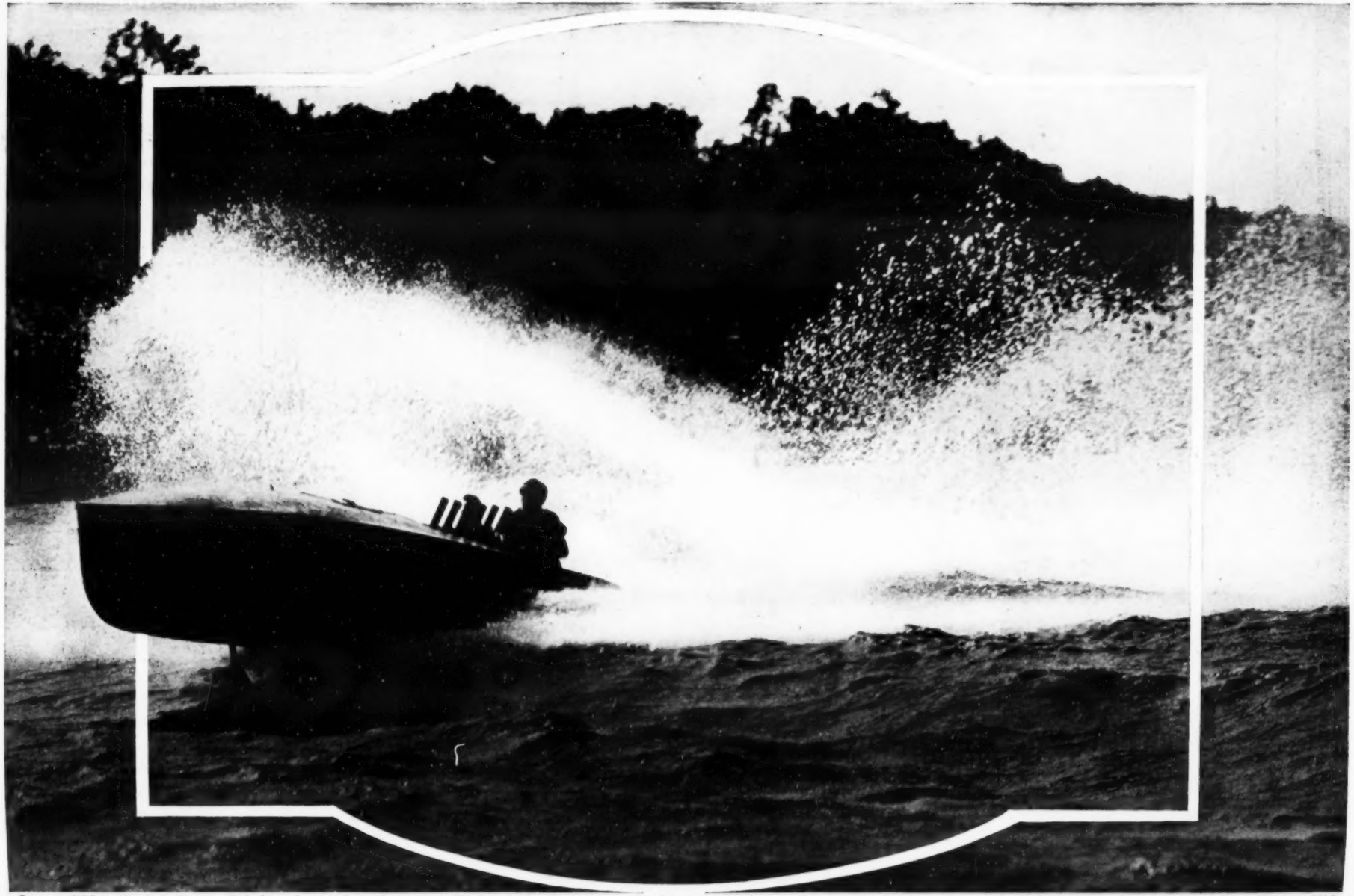


Oregon Kid at Keokuk, Iowa. This boat is a 20-foot single step Hacker hydroplane powered with a 6-cylinder 125 H. P. Van Blerck motor, and the hull weighs only about 300 lbs. Oregon Kid is probably the fastest boat in the country for her power and has won a large number of prizes this year at the Chicago and Keokuk regattas and in the west.

Baby Reliance, winner of the E. C. Thomas Trophy. This boat is owned by Commodore Blackton and powered with 180 H. P. Sterling racing engine.

# Making Records at Buffalo.

## Ten, Forty-Mile Hydroplanes Performed for Three Days in the Annual Race Meet of the Motor Boat Club of Buffalo.

*By Chas. F. Chapman.*

The Judges' stand, showing the balls used to inform the racers how much time is left before the starting gun.

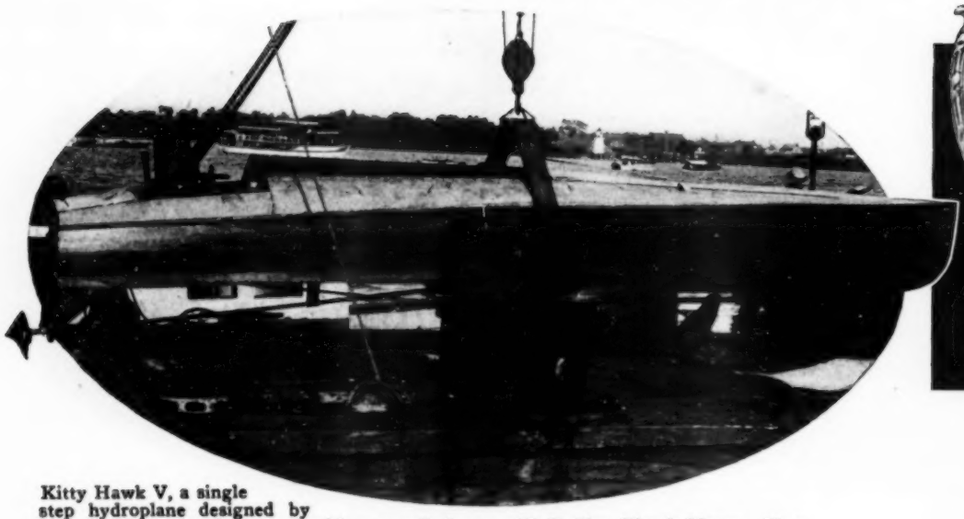
THE Motor Boat Club of Buffalo in the past has always had the reputation of being able to run off one of the most successful race meets of the year, and its record of September 4, 5 and 6, 1913, proved it once more and even a little more emphatically. While some of us who were interested solely in racing and yachting in general may have been a little annoyed by such side attractions as parachute jumping, high diving and the like in connection with a motor boat race meet, yet the introduction of these was not the fault of the race committee in the least, but was the natural outcome of circumstances which always result from the attempt to combine a land celebration, such as the Perry Centennial which the City of Buffalo was celebrating during the entire week of September first to sixth, and the kind of motor boat racing for which the Buffalo Club is noted.

In many clubs, one season of service on the regatta committee is about all any self-respecting man will stand for, especially if he has to serve through a race meet whose duration is three or four days. However, in the Motor Boat Club of Buffalo things seem to be different, for each year we see such successful men pushing the regatta and working for the general good of the whole club as ex-Commodores Gunnell and Criqui, Vice-Commodore Harold Kelly, Fleet Captain Johnson, Chairman Brundige, Arthur Utz and several others, and if the success can be attributed to any particular persons, these few should receive a large percentage of the credit.

The question of how to handle the cash prize proposition has been bothering race committees throughout the year ever since the American Power Boat Association took such a decided stand in the matter at their annual meeting last fall. The various clubs have adopted different means of caring for the contestants who had opinions on this subject, the general system being to allow him to specify in what form he wished his prize, whether it be in cash, a trophy or merchandise. The Motor Boat Club of Buffalo adopted still another arrangement in that they held two separate and distinct races simultaneously. In one, cash prizes were offered; in the other, trophies were the reward for victory. In this way the owner who did not care to compete in the same race as those racing for money, simply entered in the trophy races, and thus kept himself out of the professional class. Several owners took advantage of this and entered in the races for the Thomas, Blackton and Chamber of Commerce trophies only.

Records are always made at Buffalo, or at least they have been ever since motor boat racing became standardized to such a degree that many clubs take a pride that the arrangements for their meets shall be on a plane which will assure recognition of records, should any be made. Such is the case at the Motor Boat Club, of Buffalo—not stated from mere hearsay but from actual observation and even a little more than that. Phenomenal speeds, in many instances, we regret to say, are

Two prominent Yachtsmen, Commodores Criqui and Gunnell.



**Kitty Hawk V, a single step hydroplane designed by John L. Hacker, and powered with a 12-cylinder, 300 H. P. Van Blerck Motor. Note the position of the propeller, so placed to give the wheel better water.**

**Trophy presented to the Motor Boat Club of Buffalo by Commodore J. Stuart Blackton of New York.**

recorded on account of an incorrect length of course, perhaps not laid out too short intentionally, but on account of the committee's taking some one's word for it that it is a mile, more or less, from this particular land mark to that one.

To ascertain whether records hung up at Buffalo might be attributed to a short course, totally unknown to the Committee, we set out to settle this point once for all for our satisfaction. Accompanying Alfred Graham Miles, owner, builder and driver of P. D. Q. III, a man who is in the sport for no other purpose than the mere enjoyment and pleasure which he gets out of the game, one who is intensely interested in the records made by speed boats, not only his own but those throughout the country, and whose hobby is the scientific study of these problems, we visited the United States Engineers' offices and procured the most complete and accurate maps of this territory in their possession.

Upon these maps we plotted the position of the turning marks on all the three days of racing, by actually going over the ground and marking a large number of ranges and cross ranges. Furthermore we received statements from persons who were on shore witnessing the racing as to positions of the buoys during the actual progress of the race and from this collection of data we were able to establish practically beyond question the correct length of the course.

**Haida Papoose, winner of the J. Stuart Blackton Trophy. This boat is owned by Max Fleischman, of Cincinnati, and powered with a 180 H. P. Sterling racing engine. This boat also finished in second place on both of the previous days.**

**Baby Speed Demon, owned by J. Stuart Blackton, of New York City, a twenty foot single step hydroplane powered with a 180 H. P. racing engine, winner of the Chamber of Commerce Trophy.**

What did our findings show? Simply that the Motor Boat Club officials had been over-cautious and had the course a trifle too long rather than take any chances of having its accuracy questioned. Instead of the boats going 25 miles on the first day, they covered 26.3 miles, the second day 33.2 miles, and 36.0 miles on the third day. The mile course was found to be .95 mile instead of a true mile, but this was due to taking a movable object, such as the Revenue Cutter Morrill as one end

**Start of the first day's racing, showing Oregon Kid in the lead. This boat, powered with a 125 H. P. Van Blerck motor, was especially fast, but met with an unfortunate accident which prevented her from demonstrating her possibilities.**

mark, instead of a permanent object on the shore opposite the judges' stand.

That these results seem reasonable and logical may be seen by comparison of the speeds made by Haida Papoose, the most consistent performer, on each of the three days. On the first day, when conditions were very bad, very rough water and excursion steamers all over the course, requiring her to dodge in and out among them, this boat averaged 38.2 miles an hour for the 26.3 miles. On the second day, when conditions were the best of any on the three days, a speed of 42.2 miles per hour was recorded and on the third day when Haida Papoose was the winner, not because she ran any faster than before, but because one of the other boats ran a trifle slower for part of the course, she averaged 42.0 miles per hour for the 36 miles. The average of her mile dash—three times up stream, and three times down stream—Haida Papoose averaged 44.65 miles per hour, which is 2.65 miles an hour more than her race performance, a most reasonable allowance for turns, wash of other boats, and other conditions which a boat has to meet in a race course with frequent turns, which are not present in the mile trials.

**Marco, a 28-footer, owned by John Robinson, of Toronto, a fine production, turned out by the Marine Construction Co., of Toronto. Besides winning the displacement boat class, she was much in evidence for runabout service and is capable of 30 miles per hour with a 6 cylinder Sterling motor.**

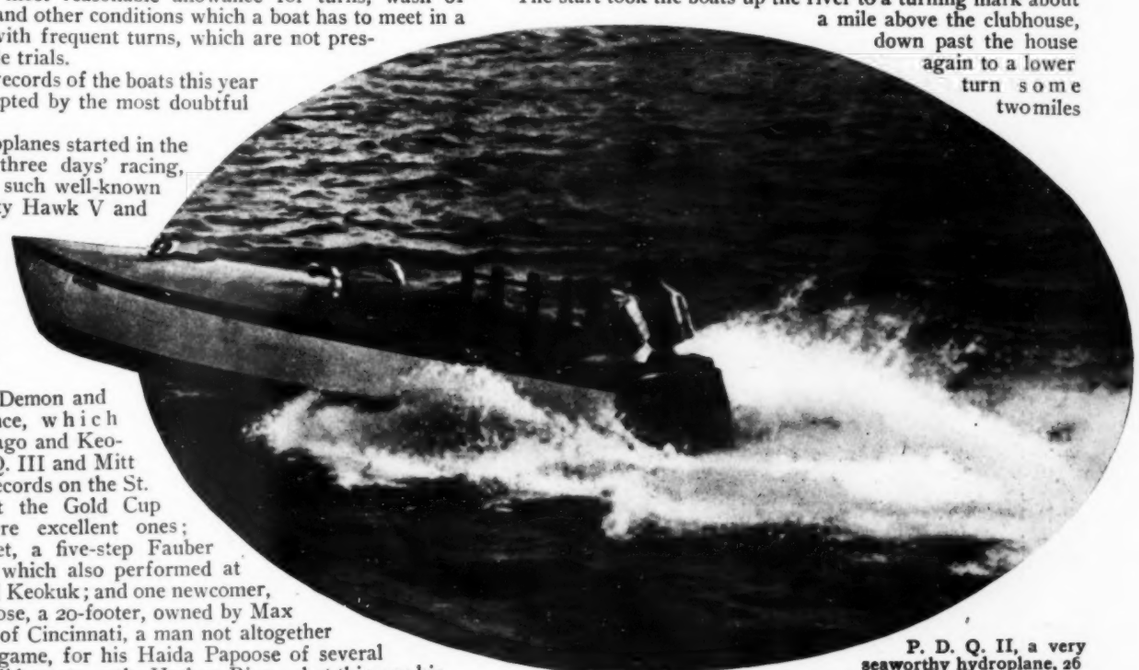
And so the records of the boats this year must be accepted by the most doubtful as correct.

Nine hydroplanes started in the first of the three days' racing, among them such well-known boats as Kitty Hawk V and Kitty Hawk, Jr., which won most of the money at Toledo earlier in the season; Oregon Kid, Baby Speed Demon and Baby Reliance, which won at Chicago and Keokuk; P. D. Q. III and Mitt III, whose records on the St. Lawrence at the Gold Cup Races were excellent ones; Hydro Bullet, a five-step Fauber hydroplane, which also performed at Chicago and Keokuk; and one newcomer, Haida Papoose, a 20-footer, owned by Max Fleischman of Cincinnati, a man not altogether new in the game, for his Haida Papoose of several seasons ago did stunts on the Hudson River—but this was his first appearance in such fast company as the Baby Reliances, Kitty Hawks, etc. In fact, Haida Papoose is a Baby Reliance herself, but, thank goodness, has a name which will permit others besides the few wise men keeping her identity clear in their minds. Four of the boats, Hydro Bullet, Oregon Kid, Kitty Hawk V and Kitty Hawk, Jr., used Van Blerck motors; all of the others were equipped with the reliable eight-cylinder, 180-H.P. Sterling racing engines.

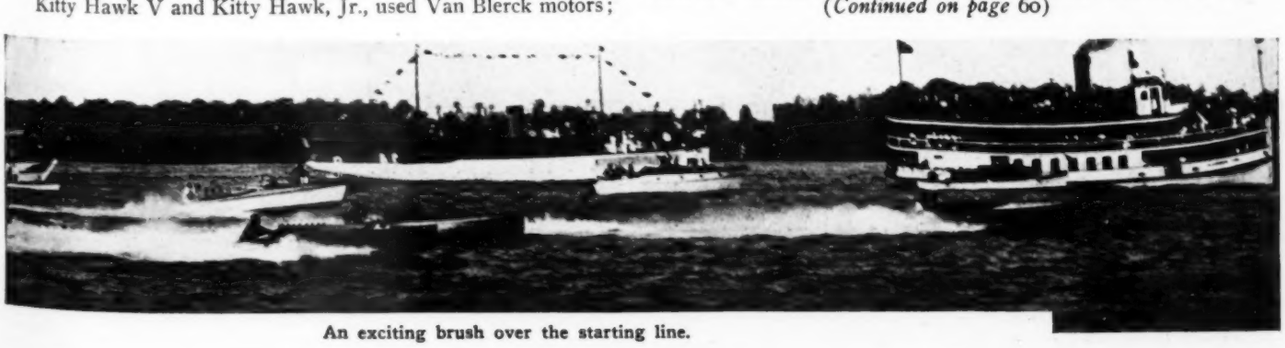
As was previously stated, conditions on this day were not the best for high-speed racing. A strong northeasterly gale blew up the river against a three-mile current, which caused a very bad chop at several places along the course, especially at the turns. Excursion steamers, heavily loaded with passengers, anchored on the easterly side of the course, dragged their anchors all over the river and the patrols were powerless to keep the course clear. However, the race was started on time and the get-away was a good one. Never before in history had nine hydroplanes, all capable of at least forty miles an hour, started together in one race, and one who has never seen such a start can hardly even imagine what it is like, and the things which happen in a few minutes of time.

The start took the boats up the river to a turning mark about a mile above the clubhouse, down past the house again to a lower turn some two miles below, then back up again. Five times around constituted the race, 26.3 statute miles. Oregon Kid, a twenty-footer, with a

(*Continued on page 60*)



**P. D. Q. II, a very seaworthy hydroplane, 26 feet long, powered with 180 H. P. Sterling motor and capable of a trifle better than 40 miles per hour. She was built by her owner, and competed in the trophy races only.**



**An exciting brush over the starting line.**

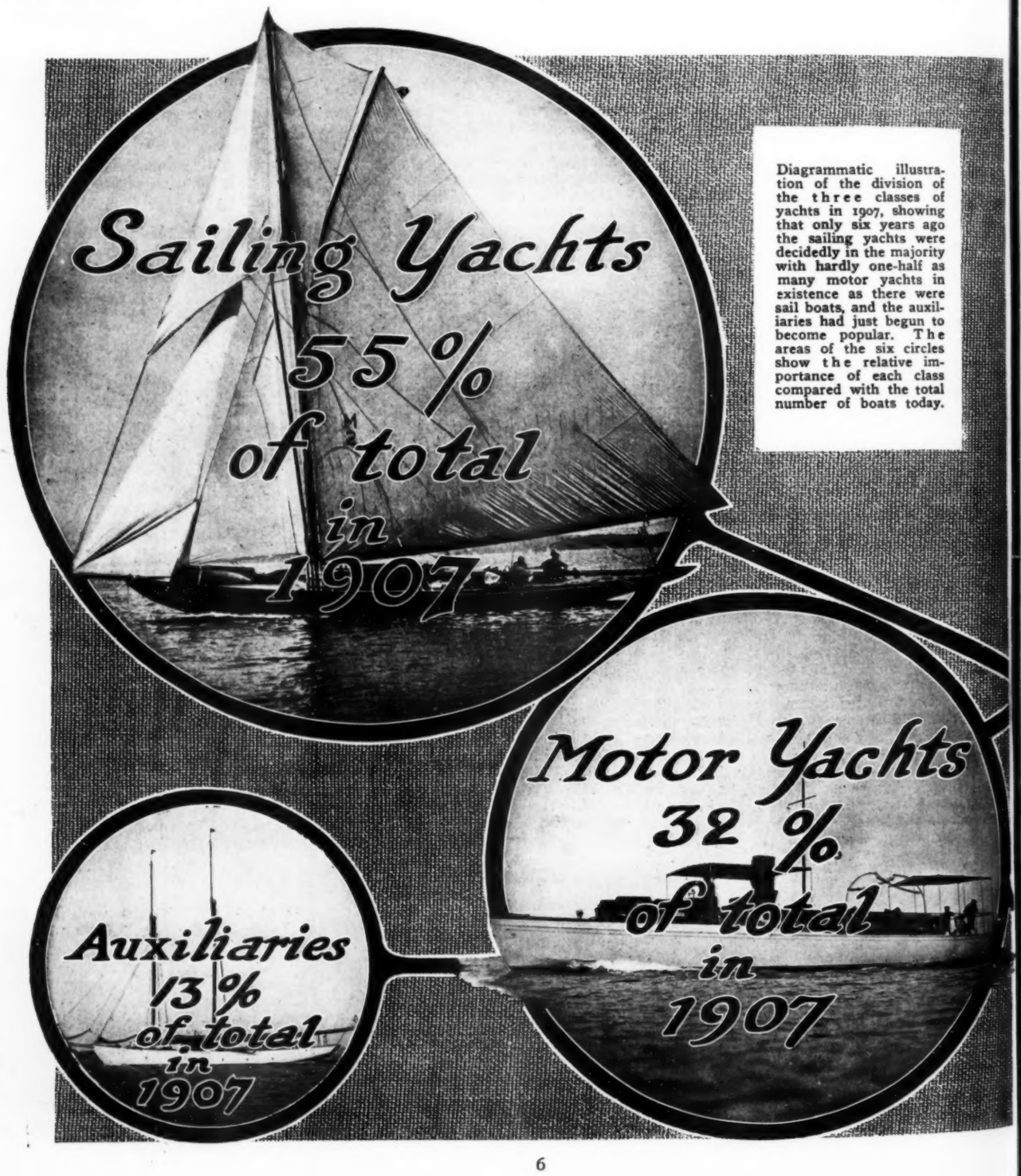
# The Increasing Popularity of

**How in the Period from 1907 to Date, the Motor Yachts Have Greatly Increased in Number from Auxiliaries Has Also Been Increased, While the Number**

LOOKING backwards for six years to a time when the modern motor yacht, although not an old fixture in the marine world by any means, yet was permanently established and well beyond the experimental stage, we find even at this early date that motor yachts were in evidence in considerable numbers at our seaport and inland harbors. To what extent the motor yacht was present in 1907 compared with the other logical classes of yachts today, that is, the sailing yacht and the auxiliary, is diagrammatically shown below by the relative areas of three circles which contain the pictures of that type, which they represent.

As one would naturally assume, upon first thought, the sailing yachts at that time were greatly in the majority, over half of the total number of yachts of the three classes being equipped for wind propulsion only, with the other classes lining up as shown in the circles below. Motor yachts were hardly a good second, and auxiliaries far in the rear.

However, great things have happened in the six years which have elapsed since 1907, the importance of the motor yacht and the sailing yacht changing place. In numbers, the yacht equipped with internal combustion motors has increased 82% in six years, while the sailing yacht has shown a loss of nearly




**Diagrammatic illustration of the division of the three classes of yachts in 1907, showing that only six years ago the sailing yachts were decidedly in the majority with hardly one-half as many motor yachts in existence as there were sail boats, and the auxiliaries had just begun to become popular. The areas of the six circles show the relative importance of each class compared with the total number of boats today.**

# the American Motor Yacht.

**Less Than One-third of the Total Number Six Years Ago to Over 53% in 1913, and the Number of Sailing Yachts Has Been Decidedly on the Wane.**

39% in the same period. Auxiliaries have been increasing, slowly but uniformly, until today we have 31% more than in 1907.

Auxiliaries in every case have not been necessarily new boats, but have simply passed from the sailing yacht class to the auxiliary class upon the installation of motor power.

Followers of the sailing game, however, have some consolation, in that in the first three year period their favorites fell off 25% in total numbers, while from 1910 to 1913, there was only an 18% decrease.

Of course, it will be readily seen that while the motor yachts are only 53% of the total in 1913, and the sailing yachts were 55% of the total in 1907, yet in total numbers the motor yacht of today greatly exceeds the number of sailing yachts in existence in 1907. This is simply because of the fact that the total number of the three classes today is considerably greater than the total six years ago—practically 10% greater, in fact. This is brought out more plainly by the relative area of the circles, where it will be seen that the area of the motor yacht circle for 1913 is considerably greater than the sailing yacht circle of 1907, even though, as we have pointed out, the former is 55% and the latter but 53%.

**In 1913 the motor yacht had increased from 32% of the total number of boats in existence 6 years ago to 53% of the total number of motor yachts, sailing yachts and auxiliaries listed today. On the other hand, sailing yachts have decreased in number from 55% of the total in 1907 to 31% of the total at the present time. These facts are illustrated by the comparative sizes of the circles, whose combined areas on each page represent the total number of boats in that year.**

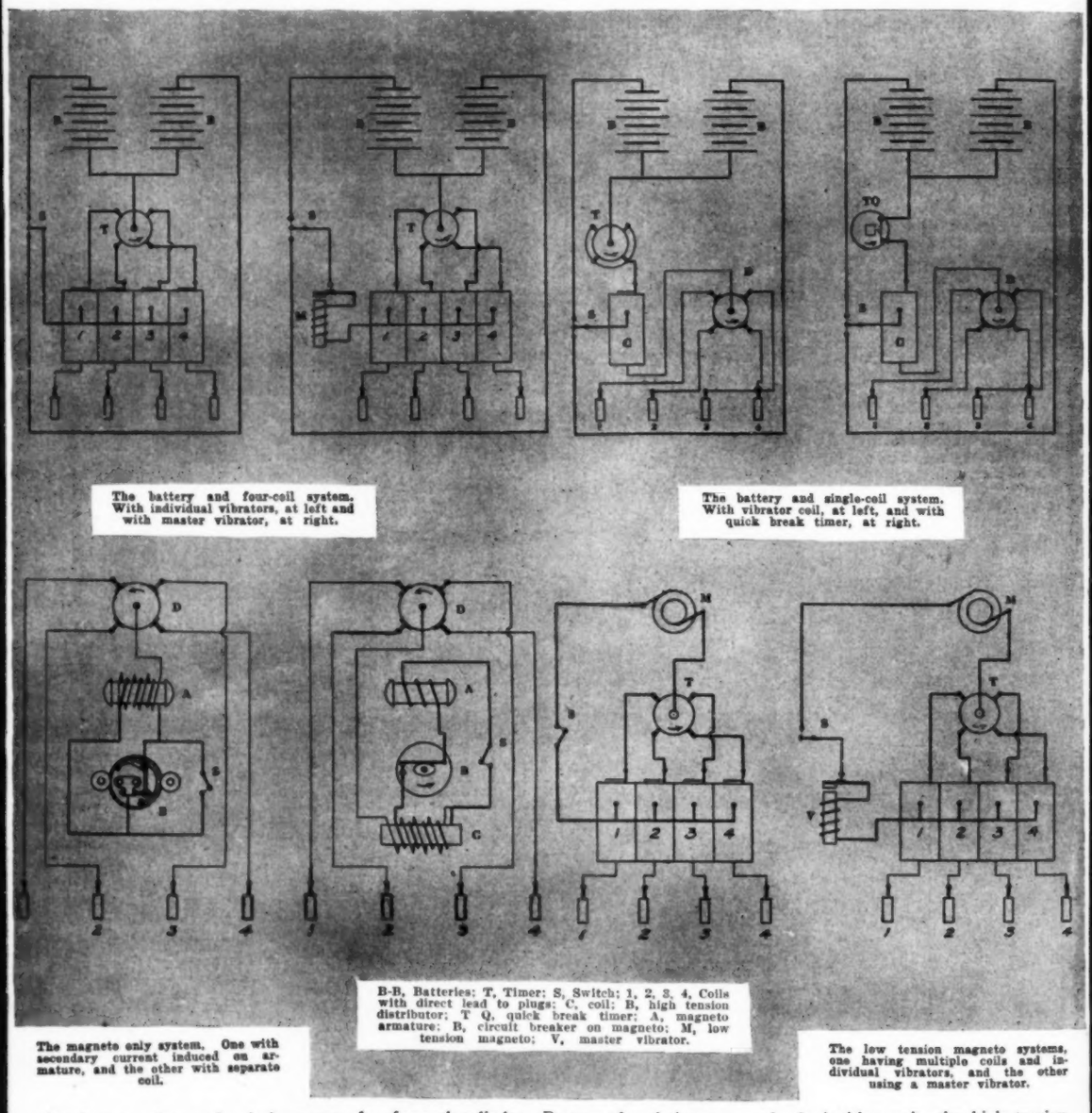
# Ignition Circuits.

## A Discussion of the Various Types and Systems Employed. The Difference Between "Dual" and "Double"—The Story Told in Diagrams.

IT appears that motor boat ignition systems have settled down in the matter of types employed, and that those arrangements that include an alternative source of energy will shortly be so widely used as to be capable of being considered universal. Very little dependence is now placed upon primary chemical sources of ignition current, and when they are used they usually serve simply as auxiliary to a mechanical source. It is within memory of almost everyone that dry cells were once universally used and practically the only available source of ignition current. Then came the storage battery to share its use. And finally the magneto was developed and applied to such an extent that the others largely became supplementary and only occasionally used sources of ignition current.

At this time it may prove interesting to review the several different ignition arrangements. Of "battery only" system little may be said. It is usually the conventional and well-known arrangement of battery, timer and coils, one of the latter for each cylinder. By way of variation, a single vibrator coil may be used in connection with a distributor made a part of the timer. Then again it may comprise a timer, a "master vibrator" and multiple coils, one for each cylinder; or there may be a "single break" circuit maker with single non-vibrator coil and distributor. Each of these several different arrangements is shown in diagram in the accompanying figures—the number of units and connections being in each case that for a four-cylinder engine.

As distinguished from the "battery only," whether it be dry cells or storage that are employed as the current source, there is the "magneto only" system. In this latter, the ignition currents, both high and low tension, may be, respectively, generated and induced and distributed by a simple ignition unit—the high tension magneto. This is the most common method. An alternative is to use a positively geared magneto in which only the primary current is generated, which is then passed into a transformer coil external to the magneto itself. In this latter method, the circuit breaker, upon whose action depends the time of induction in the transformer of the high tension sparking current, is made a part of the magneto, as is also



The battery and four-coil system. With individual vibrators, at left and with master vibrator, at right.

The battery and single-coil system. With vibrator coil, at left, and with quick break timer, at right.

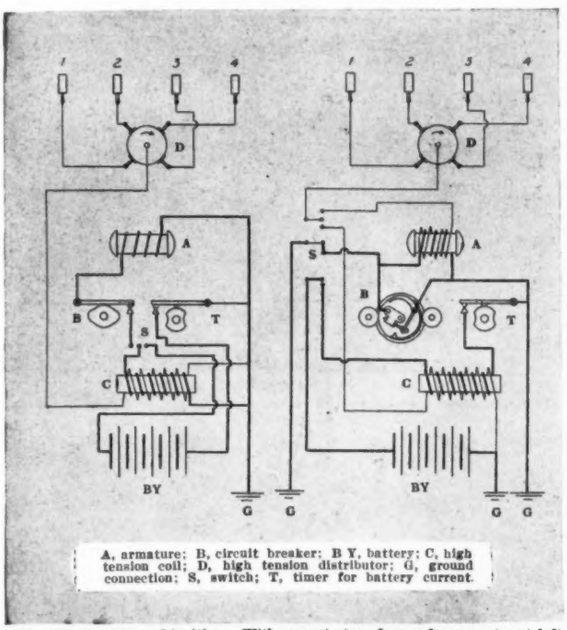
The magneto only system. One with secondary current induced on armature, and the other with separate coil.

B-B, Batteries; T, Timer; S, Switch; 1, 2, 3, 4, Coils with direct lead to plugs; C, coil; B, high tension distributor; T Q, quick break timer; A, magneto armature; B, circuit breaker on magneto; M, low tension magneto; V, master vibrator.

The low tension magneto systems, one having multiple coils and individual vibrators, and the other using a master vibrator.

the distributor which selectively passes the transformer's output to the spark plugs in the cylinders. This system enjoys some vogue in "magneto only" systems, but because of the feature of an external transformer, it lends itself extremely well to "dual" ignition, as will be shown later. A further example of amplification of this type of single system is used, in which a magneto is driven by the engine, but not in any set of cyclic relation to it, and the low tension current thus generated is passed through a timer to multiply coils with vibrators, or to a "master vibrator" coil which serves a set of non-vibrator coils. These methods of "magneto only" ignition are diagrammatically explained in the drawings, where as before they are shown as serving four-cylinder engines.

We come now to the largest of the three classes, that including "dual" and "double" ignition. In each example in this broad classification there are two sources of primary ignition current, a battery, dry or storage, and a magneto or other mechanical source. The examples called "double" besides having the two independent sources of current supply, also have wholly independent means of utilizing the two current all the way along the line, to two sets of sparking plugs. This portion of the "dual" and "double" class, can be disposed of, as to arrangements employed, by saying that it includes one or another of the "battery only" with one or another of the "magneto only" systems shown in the foregoing as complete ignition systems. It is thus seen that a very great deal of variety is possible, since the combinations are many. However, at this point it may be said that the two most usual combinations are the self-contained high tension magneto together with the timer and multiple coil method of battery ignition; and the same type of magneto with the single non-vibrator coil, circuit breaker and distributor method. Since all members of the double system are shown individually on these pages, it would be but useless repetition to show them in their several possible combinations.




A, armature; B, circuit breaker; B Y, battery; C, high tension coil; D, high tension distributor; G, ground connection; S, switch; T, timer for battery current.

The "dual" system of ignition. With separate transformer for magneto, at left, and with self-contained magneto, at right.

This brings us to a consideration of the most interesting of the lot—the "dual" system. It is more largely used than its relative, the "double" system. It was noted in the foregoing that the type of magneto employing an external transformer lends itself to dual ignition with great facility. The reason for this is that the thing which chiefly distinguishes the "dual" from the "double" is that the current from both sources of supply is used largely in the same members of the system. But since it is inadvisable to utilize the armature windings of the ordinary type of self-contained high tension magneto as the two windings of a transformer for battery current, through considerations of permanence in the "permanent" field magnets of the magneto, a special battery transformer coil would have to be used in any case. Since there is already such a transformer coil in use with the type of magneto noted, and since its windings are independent of that in the magneto armature, it is perfectly feasible to utilize the same transformer for the battery current as well. Thus is the use of a special or extra transformer obviated.

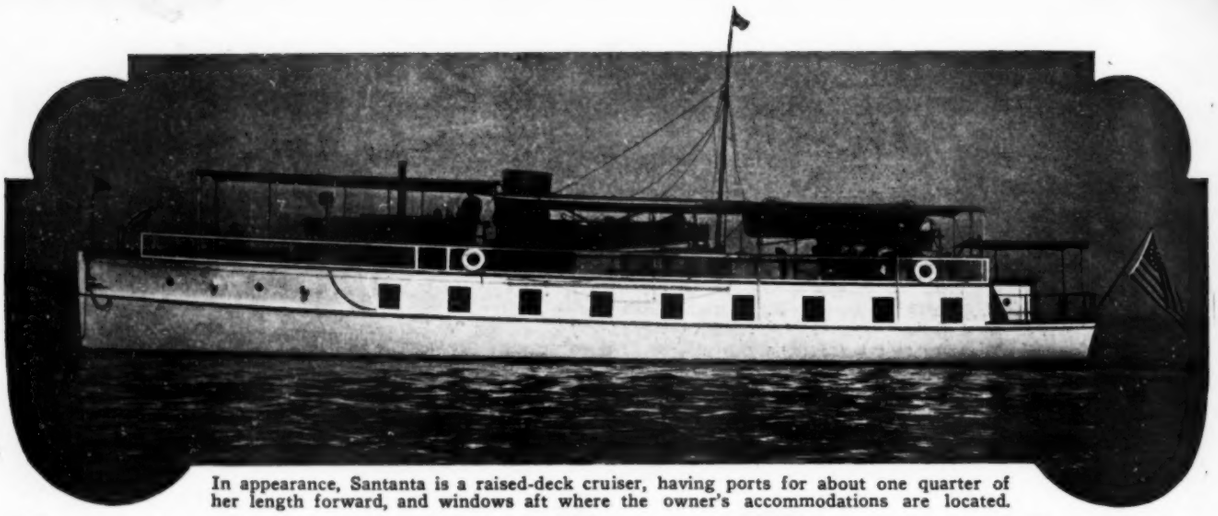
In any case, "duality" of ignition requires that there be the whole number of parts required for the "magneto only" ignition, with added parts to take care of the battery current without confliction. And it is usually taken as an object to keep these extra parts down to a minimum. Since the ordinary magneto circuit breaker is at all times in series with the primary winding of the armature, the battery current cannot be handled by that breaker without running it through the armature winding, with the result that the magnetic strength of the magneto's field will be impaired by the alternate opposing current. This makes it necessary to fit to the magneto a second circuit breaker to handle the battery current, to cause it to flow into the transformer primary and to break the circuit at the proper time. Furthermore, the two circuit breakers must act differently. That is the best results are ordinarily had in the magneto by having its circuit breaker normally closed, and opening it only at the times that sparks are required. In this way, at least with an external transformer for the magneto current, that current has ample time in which to build up the magnetic field about the secondary winding of the transformer, to its maximum value. This point is important, since the intensity of the induced sparking current is dependent upon the strength of the magnetic field which is removed from around it when the circuit is broken. Clearly this kind of circuit breaker action will not do where a battery is used, since it normally keeps the circuit closed, and would quickly exhaust the battery. Thus the battery circuit breaker requires also to be a circuit maker, and the construction and operation must be such that the duration of contact before breaking to produce the spark is no more than enough to build up a magnetic field of reasonable intensity. As noted these conflicting requirements cannot be met by a single circuit breaker of the ordinary simple type.

Beyond the circuit breaker and the transformer, the parts used for the handling of the ignition currents are identical. A single distributor serves for both, as do also a single set of plug wires and a single set of spark plugs.

To sum up, the distinguishing difference between the dual and the double system is that the former provides only alternative sources of primary current, while the latter provides alternative complete ignition systems. But even so, one always conserves the battery, and runs whenever possible on current from the mechanical source. This relegates the battery portion of the system, or the battery system, in each case almost wholly to emergency service and to the securing of easy starting. Naturally this latter is the more prominent usefulness of the battery end of the dual system, since, should any derangement occur in the parts of this system that are common to the handling of both currents, each would be equally useless until repairs had been effected. On the contrary, in the "double" system one course of current is the true alternative of the other.

The question of the relative values of these two methods of ignition is one that is very open to discussion, and one which cannot be answered once for all. The factor of the user's personal likes and dislikes enters into the matter, and this makes a decision between them largely a matter of taste. As making for the guarding against all possible delay in the boat's action, the "double" is unquestionably the superior; but usage, based on practice, or practice based on usage, whichever you prefer, indicates strongly for the "dual," probably because of its sufficient reliability, together with its greater simplicity, at least in so far as numbers of parts and like matters are concerned.

There are two other matters closely related to the ignition system types that can well be considered at this time. These matters have to do with the timing of the spark in the cylinders, and both aim to take the control of the spark position out of the hands of the engineer. The first of these is the so-called "fixed spark," in which the timing of the spark is set once for all and does not vary and is incapable of being varied with the speed of the engine. Very naturally such a method requires that the device supplying the sparking current operate without lag, and this condition is most nearly realized in the action of a so-called true high tension magneto. It works out well enough in those services which do not require the extreme range of speed of the engine. The practicability of this method rests chiefly upon the securing of mixtures in the cylinders at the higher speeds that will propagate the flame of combustion with sufficient rapidity.



In appearance, Santanta is a raised-deck cruiser, having ports for about one quarter of her length forward, and windows aft where the owner's accommodations are located.

# Santanta, a 90-Foot House Yacht.

*Photographs by Stebbins.*

SANTANTA, the motor yacht shown on these two pages, has recently been completed for Osborn Howes, of Boston, by George Lawley & Son, from designs by Cox & Stevens. She is powered with two heavy duty, 8¼" x 9", four cylinder Craig engines, and is intended for both northern and southern cruising.

The vessel is of a type that is now becoming very popular, namely, a boat of good beam and light draft, with the maximum amount of deck room, and having windows insteads of ports for ventilation. In fact, she combines the seaworthy qualities of the motor boat, with the comfort and good light and ventilation secured in the house-boat type. The dimensions are: Length over all, 90 feet; beam, 18 feet 6 inches; draft, 3 feet 6 inches.

She has a perfectly clear deck throughout, with the exception of the combined companionway and skylight, and stack to carry the exhaust from the motors. The house forward, about 12 feet square, can be used as a card room or breakfast room. The large stack provided to carry the exhaust from the motors is also used for ventilation. She carries a pole mast for signaling purposes, and has an awning running the full length over the deck.

One of the four guests' staterooms.

One corner of the main saloon, with book-case and desk.

The accommodations for the owner and guests are aft below, and occupy considerably more than half the length of the vessel; the motors, galley and crew's space are in the forward portion separated from the after accommodation by a heavy steel bulkhead, and a similar bulkhead separates the engine room from the crew's space. There is provided in addition a forward and an after steel collision bulkhead.

Immediately abaft the engine space and at the greatest width of the hull is the main saloon, extending across the ship and being 12 feet in length fore and aft. A very easy stairway leads directly into this saloon from the upper deck. This room will be used as the regular dining room, and will be furnished in selected mahogany, the bulkheads being panelled up to the height of the window sills with the material, and the finish above this wain-

The bridge looking forward.

Another corner of the main saloon, showing piano and other furnishings.

scoting being in white enamel. This room contains, in addition to an extension dining table, a full length sofa on each side, arranged to be used as berths if desired; a piano, gun locker and fishing rod cabinet, bookcase and sideboard. Opening from this room is a large hanging locker for oilskins, coats, etc., also having shelves for the stowage of miscellaneous articles.

A passage on the center line runs from this saloon to the after end of the accommodation, which is utilized as the owner's stateroom. This stateroom extends the full width of the vessel and is fitted with a double berth on the starboard side, and on the port side a sofa built of mahogany. It also has a bureau of the same material, and a very large wardrobe for the stowage of clothes of all sorts. This room has an independent stairway to the deck, and also a separate toilet. The space on the port side of the passage is utilized for two single staterooms, each having a built-in berth, wardrobe, bureau and seat, and between these rooms is a bathroom with tub, toilet, wash basin and linen locker.

On the starboard side of the passage and opening into it are a large linen locker, one large double stateroom having two berths, wardrobe, bureau and sofa, and a bathroom equipped in the same manner as the bathroom on the port side. The finish in these staterooms is the same as in the saloon. All furniture and trim is of carefully selected mahogany, while the bulkheads and other exposed woodwork are enamelled in white, the doors throughout being of mahogany. Both bathrooms have tiled floors and are fitted for hot and cold running fresh water and cold salt water.

Comfortable deck house.

One of the several easy stairways leading down from on deck.

The galley is placed below forward of the motor compartment and directly underneath the deckhouse with which it communicates by means of a dumb waiter, so that meals may be served in the deckhouse as well as in the main saloon. A passageway at the starboard side connects the galley with the main saloon for ease in serving meals. In the galley in addition to the range, which has a hot water boiler, is placed the hot water heating plant, which provides heat for every portion of the vessel; the galley is also supplied with the usual ice-box, dresser, sink and lockers for stowage of glass, china, etc.

On the upper deck are davits to handle four boats; a sixteen-foot launch; a fourteen-foot dinghy; a twelve-foot dinghy and a canoe.

The spacious and comfortable after deck.

# On the Mississippi.

## The Annual Races of the Mississippi Valley Power Boat Association, at Cooper Lake at Keokuk, Iowa. The New Classifications Tried Out for the First Time With Great Success.

*By Admiral Chas. P. Hanley.*

THIS year's annual regatta of the Mississippi Valley Power Boat Association was staged amid new settings, and on waters strange to the Mississippi Valley rivermen, for at Keokuk, Iowa, one was greeted upon their arrival, not by the river of old, but by an immense inland lake, Lake Cooper, and upon this magnificent body of waters was held the fifth annual regatta of the big Middle Western Boating Association.

Little Leading Lady, a 14-foot hydroplane, powered with a 6-cylinder Emerson motor. This boat easily won the two heats of Class C.

As the time approached for the races, one found an unusual number of fast racing crafts gathered together, from the small class racers to the big hydroplanes; in fact, this year the Valley Association attracted to its meet, the cream of the country.

Oregon Kid, owned by S. F. Brock, winner of the Mississippi Valley Championship at a speed of 45.6 miles per hour. She is powered with a 6-cylinder Van Blerck motor.

Another feature of the meet was the trying out for the first time, the new rules of the Association. These rules classified the boats according to cylinder displacement only, and they succeeded in attracting a large entry list for each class. In the smaller classes, A and B, the boats were so closely matched that it required an extra heat in each to determine the winner, and all through the various classes the boats were well bunched and the winner was hard to determine until the finish.

Phantom, owned by A. L. Osborn, winner of the first heat of Class B. Race. She lost the second heat by ⅕ of a second.

The particular stars in the various classes would be hard to pick. In classes A and B, after a hard fight with "Phantom," owned by A. L. Osborne, of Galena, Ill., the "P. D. Q. III," owned by A. C. Strong, of Burlington, Iowa, proved the winner, and made especially good time. The "P. D. Q. III" is a twenty foot Hacker hydroplane and is powered with a 3-cylinder Wisconsin valveless motor.

In class C, our old friend W. P. Cleveland had a new boat entered, "The Little Leading Lady." This boat is a fourteen foot hydroplane of Mr. Cleveland's own design, and is powered with a six cylinder Emerson motor, and during the races it made better than thirty miles an hour and easily won her class.

As usual, the first two days of the meet, Tuesday and Wednesday, were given over almost entirely to the smaller classes. In class D, the "Oregon Kid" appeared for the first time and easily won the heat with "Teaser IV," second, and

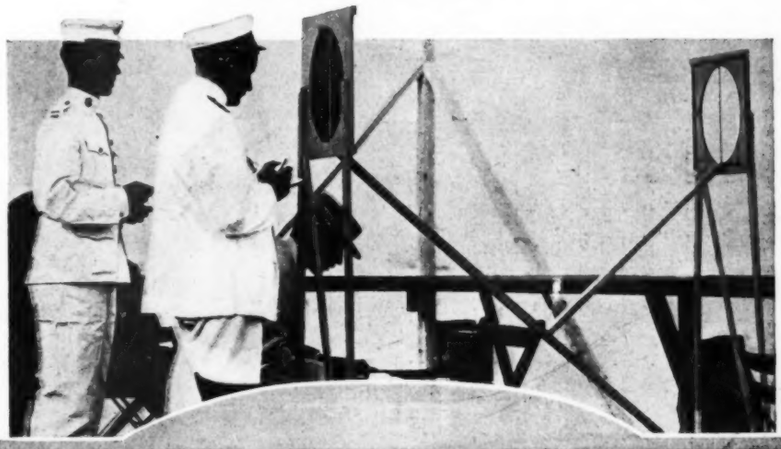
(*Continued on page 48*)

Hydro Bullet, a Fauber hydroplane, owned by E. H. Deakin, winner of second prize in the Free-for-All for the Webb Trophy. This boat is powered with an 8-cylinder 180 H. P. Van Blerck motor.

# Chicago's Second Carnival.

## A Successful Series of Races for the 20, 26 and 32-Foot Classes, and the Annual Competition for the Wrigley Trophy.

CONVINCED by the results of last year that hydroplane racing in the open on Lake Michigan is not altogether practical, and also aware of the fact that a system of scoring whereby the boat wins the prize, which—to use the very expression of the committee — "wins second twice first," does not necessarily decide which boat is the fastest; the Chicago authorities made several changes this year, with a result that the meet was strikingly successful.



Timers at the mile trials.

Barnacle, owned by Adam Weckler, a consistent performer with a Van Blerck motor, hull built by the Weckler Boat Co.

Foremost of these, perhaps, was the laying out of the course inside the breakwater, which protected the racers from the real waters of Lake Michigan. However, the best water for racing has not yet been found, apparently, for the oscillations which did pass through the openings in the breakwater, together with the not insignificant swells thrown up by the racing boats themselves were reflected back and forth from the shore bulkhead to the breakwater and back again. This resulted in a sort of a cross chop which was always present and bothered the racers not a little.

There were races for the 20, 26 and 32-foot classes and a competition for the Wrigley Trophy. Each class race was run in heats, not as it was last year when each boat had to compete in all of the heats, but this year the boats were required to run in but one preliminary trial, which if they won, entitled them to run in the finals. The boat making the fastest second time in any of the heats was also qualified for the finals.

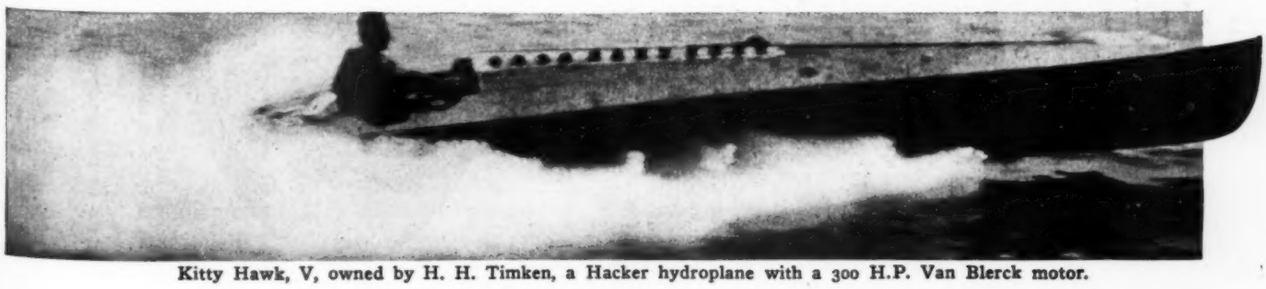
Baby Speed Demon, owned by Commodore J. Stuart Blackton, and powered with 180 H. P. Sterling motor, winner of the 20 and 26-foot classes.

Van Blerck, with a 180 H. P. Van Blerck motor, second in the 26 and 32-foot classes.

This system proved very satisfactory throughout. In the 20-foot class the heats went to Baby Reliance, Hazel II, Oregon Kid, with Baby Speed Demon the best second. In the finals Baby Speed Demon carried off the honors, beating Oregon Kid by five seconds. The latter, however, led for a considerable distance until her air pump went out. (Full details given on page 36.)

The 26-foot class sailed on the next day, which brought out nearly all of

(*Continued on page 48*)



Kitty Hawk, V, owned by H. H. Timken, a Hacker hydroplane with a 300 H.P. Van Blerck motor.

# Following the Winter Sun.

**Suggestions as to How to Reach the Picturesque Lagoons and Other Attractive Places in Florida by Following the Canals and Nature's Inland Water Ways.**

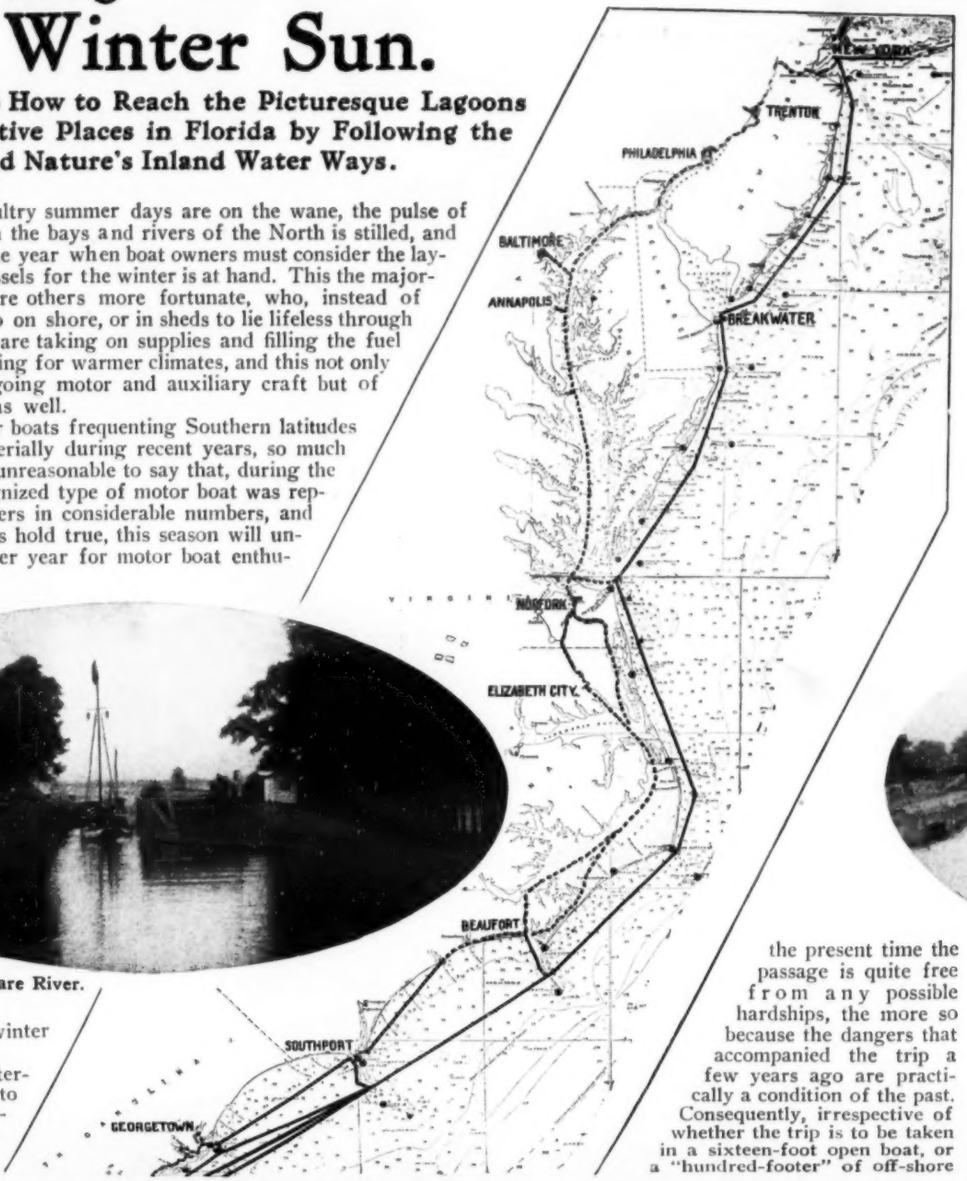
ONCE more the sultry summer days are on the wane, the pulse of many motors on the bays and rivers of the North is stilled, and the season of the year when boat owners must consider the laying up of their little vessels for the winter is at hand. This the majority must do, but there are others more fortunate, who, instead of propping their boats up on shore, or in sheds to lie lifeless through the long winter months, are taking on supplies and filling the fuel tanks preparatory to sailing for warmer climates, and this not only holds true of large sea-going motor and auxiliary craft but of the small "put-putter" as well.

The number of motor boats frequenting Southern latitudes has increased very materially during recent years, so much so that it would not be unreasonable to say that, during the past season, every recognized type of motor boat was represented in Florida waters in considerable numbers, and if the present indications hold true, this season will undoubtedly prove a banner year for motor boat enthu-

Lock at Bordentown, N. J., entrance to Delaware River.

siasts in the land of winter sunshine.

The network of waterways that lie adjacent to our Southern States offers unusual inducements for short trips or extended cruises,




the present time the passage is quite free from any possible hardships, the more so because the dangers that accompanied the trip a few years ago are practically a condition of the past. Consequently, irrespective of whether the trip is to be taken in a sixteen-foot open boat, or a "hundred-footer" of off-shore

# Motor Boat Routes to Florida.

**The "Inside" and "Outside" Courses and How to Follow Them from New York to Key West.**

*By A. L. Brennan, Jr.*

suitable lines and fenders ready.

Any of the ordinary types of fenders are serviceable for lock use, but a "superior affair" is contrived by using a stout spar as follows. Boats of fifty or sixty feet should have two spars of about fifteen feet in length and of suitable thickness to prevent them from being easily bent. These spars should be hung one on each side of perpendicular fenders, thus protecting the planking. This "fender equipment" offers several advantages. For instance, the spar fender will travel easily on the sides of the canal locks, while the boat is being raised or lowered, while canvas fenders are apt to be squeezed and broken, besides collecting an unnecessary amount of dirt and slime. Spar fenders are also suitable for protecting a boat while lying alongside of piles or broken docks. Ordinary grain bags filled with straw prove economical as well as efficient fenders.

Trenton, which is thirty-two miles from New Brunswick and

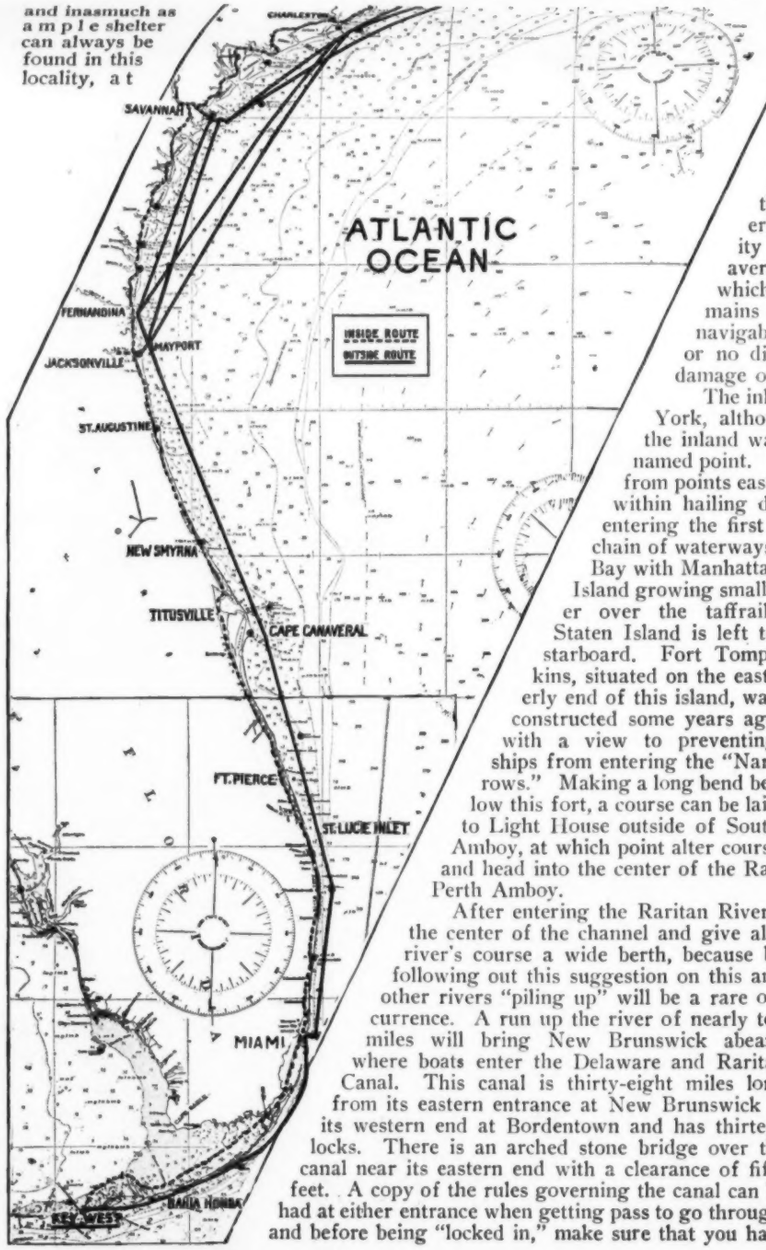
Southward bound in the Delaware and Raritan Canal.

is the capital of New Jersey, proves a convenient and interesting place at which to tie up, if a stop is to be made while in the canal. From Trenton a six-mile run will fetch Bordentown, where the Delaware River is entered, and from there a twenty-five-mile run will bring Philadelphia close aboard on the starboard hand. Then on down the river for an additional thirty-five miles and Delaware City is reached, at which point the Chesapeake and Delaware Canal to Chesapeake City is entered.

ments for short trips or extended cruises,

five miles and Delaware City is reached, at which point the Chesapeake and Delaware Canal to Chesapeake City is entered.

and inasmuch as ample shelter can always be found in this locality, at




design, either boat will reach her destination in safety if directions are closely adhered to and the boat handled in an able manner.

Some owners who contemplate a trip South, seem to take it as a matter of course that they should pile up on bars, "chew" their wheels to pieces on dead heads and the like, simply because they have heard others state that the waterways below the Delaware Capes are very shoal. Considering the broad expanses of water in this vicinity as a whole, their depth is rather less than the average depth of corresponding bodies of water which border the Northern States, but the fact remains that suitable fair ways will be found on all navigable waters, and if the marks are followed, little or no difficulty will be realized in avoiding possible damage of such nature as mentioned above.

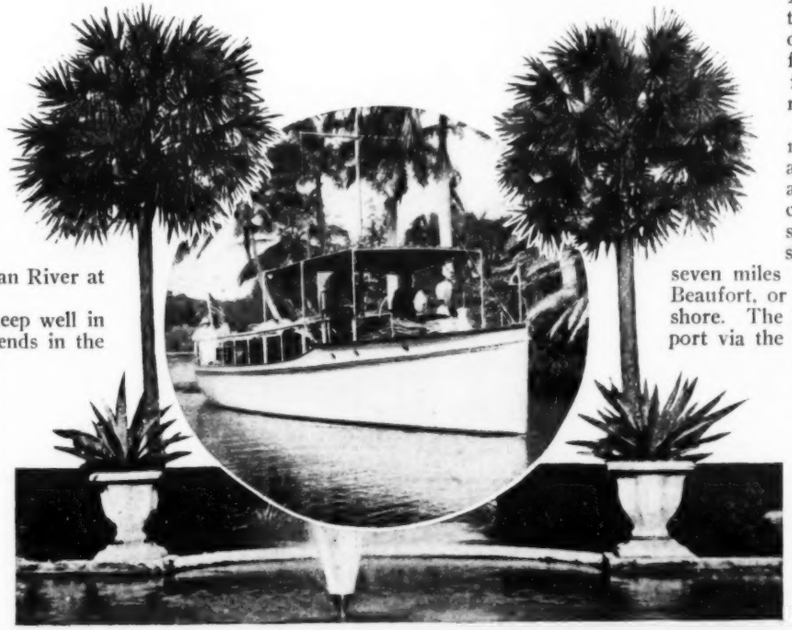
The inland passage to Florida actually begins at New York, although, of course, the boats that follow down the inland waterway do not necessarily hail from the last named point. In all probability, however, boats bound South from points east and north of New York will eventually come within hailing distance of the "City of Sky Domes" before entering the first link of unquestionably the most interesting chain of waterways in the world. Standing down New York Bay with Manhattan Island growing smaller over the taffrail, Staten Island is left to starboard. Fort Tompkins, situated on the easterly end of this island, was constructed some years ago with a view to preventing ships from entering the "Narrows." Making a long bend below this fort, a course can be laid to Light House outside of South Amboy, at which point alter course and head into the center of the Raritan River at Perth Amboy.

After entering the Raritan River, keep well in the center of the channel and give all bends in the river's course a wide berth, because by following out this suggestion on this and other rivers "piling up" will be a rare occurrence. A run up the river of nearly ten miles will bring New Brunswick abeam, where boats enter the Delaware and Raritan Canal. This canal is thirty-eight miles long from its eastern entrance at New Brunswick to its western end at Bordentown and has thirteen locks. There is an arched stone bridge over the canal near its eastern end with a clearance of fifty feet. A copy of the rules governing the canal can be had at either entrance when getting pass to go through, and before being "locked in," make sure that you have

The canal is twelve miles long and has three locks. All bridges over this canal have draws, and regulations governing the canal can be had at the entrance on application. Leaving the canal behind, Back Creek is entered, which has a length of three and one-quarter miles from Chesapeake City to Elk River, and the channel of which is crooked. The several buoys, however, make navigation comparatively easy, although it is not advisable to anchor in this creek. Leaving Back Creek for an eight-mile run down the Elk River to Turkey Point, Chesapeake Bay is entered.

Baltimore is thirty-five miles from the last named point, and Norfolk, Virginia, about one hundred and ninety-five miles. Except during severe storms, the Chesapeake is very easy to navigate, and not a few boats go direct from Chesapeake City to Norfolk. The channel in this rather expansive body of water is well marked and easily followed.

From the southern branch of the Elizabeth River to Albemarle Sound there are two routes that are used—one through Deep Creek, Dismal Swamp Canal and Pasquotank River. This route is the better, as the canal is well sheltered, the water depth is constant and supplies of all kinds as well as telegraph and railroad facilities may be had at Elizabeth City, thirty-four miles from Norfolk. From Elizabeth City the route leads on down the Pasquotank through Albemarle, Croatan and Pemlico Sounds, Neuse River, Adams Creek, canal to Core Creek and Beaufort Harbor, N. C. The other route leads through Albemarle and Chesapeake Canal and North Landing River, Coanjock Canal and North River. The distance is about one hundred and eighty miles from Norfolk to Beaufort, no matter which route is taken.



On the Indian River, Florida.

Boats en route South almost invariably put to sea after reaching Beaufort and either steer a direct course for the light vessel off Frying Pan shoals, which is eighty-seven miles from the sea buoy off Beaufort, or else follow around the shore. The latter course to Southport via the Swash Channel is considerably shorter than the direct course around the shoals, but this route should not be attempted by those not thoroughly acquainted in this locality unless a pilot is carried. From the light vessel on the shoals to a protected anchorage in the Cape Fear River is about twenty-five

miles. The whistling buoy off the entrance to Winyah Bay is some 67 miles from Frying Pan Shoals light vessel, and by running up Winyah Bay a short distance a comfortable anchorage can be found.

From Winyah Bay to Charleston, via inside water ways and passages is about 70 miles, and a draft of four feet can be carried easily, although there are one or two places in this inside portion of the trip where it will be necessary to wait for high tide. The distance direct to Charleston outside is in the neighborhood of 62 miles.

From Charleston, S. C., to Fernandina, Fla., there is a continuous inland waterway, navigable at low tide for a draft of 6 feet. At certain portions of this inside route the fairways become very narrow and crooked, but by proceeding at moderate speed and watching the ranges and other guides carefully there should be no great difficulty experienced in making good headway.

The inside passage from Fernandina to the St. Johns River is a little difficult, but a stranger can manage to avoid going aground, by keeping track of the tides in this locality, which range from 3 to 6 feet in different places.

There is a continuous inside waterway through canals and natural channels from St. Johns River to Miami, situated on Kay Biscayne Bay, Fla., with a depth that varies from three to seven feet. During the past season several boats of four feet draft made the trip without much trouble. Except in the vicinity of the inlets the bodies of water in this locality are non-tidal, but are affected by heavy winds of either southerly or northerly direction, which at times materially affect the natural depth. Some trouble may be avoided by going outside at St. Johns River or at St. Augustine and then following the coast to Mosquito Inlet, where the inside course can be continued without further difficulty.

St. Augustine proves the first place of interest south of the St. Johns River, and is really the first resort, and during the winter season the town is frequented by tourists from all over the country. Courtesies of the motor boat club are always extended to visiting motor boats by its hospitable secretary.

Ormond and Daytona are the next attractive places of importance, the latter town being some 46 miles south of St. Augustine and having become quite famous as a racing center.

New Smyrna is 13 miles further south and is an attractive place of fair size.

Palm Beach is located about 270 miles from Jacksonville, and while it is well known as a winter resort, still this town has not proved an attractive rendezvous for power boats, due to its location and to the fact that it does not offer a good harbor or one that is easily entered. In fact, the water in close proximity to the hotels is quite shallow.

Miami, sixty miles further south, is what might be termed Florida's natural gathering place for motor boats due to its situation and natural advantages, and being the last mainland town on the Florida East Coast, it is also possessed of some commercial importance. The majority of motor boats that frequent Florida waters make Miami their home port while on the East Coast, and while this rendezvous usually terminates the trip from the North, still for convenience, the table of distances gives some information through to Key West. Miami is almost an ideal place for winter, being a natural base from which to make varied trips or extended cruises.

The newest and one of the best of these trips is via Ft. Lauderdale and the North New River Canal to Lake Okeechobee, continuing down the Caloosahatchie River to the Gulf Coast, and thence southward past the Ten Thousand Islands, around Cape Florida and up through the keys to Miami. With favorable conditions this trip can be made in ten days.

## Motor Boat Routes to Florida and the South.

*Showing how the 1600 mile trip from New York to Key West, Florida, can be divided into easy runs. Where general stores and gasoline can be obtained. Good anchorages and places to tie up. Facilities for hauling out and general repairing en route. Full particulars and complete sailing directions can be found in the Government book, "Inside Route Pilot New York to Key West."*

| From | To | Distance Inside | Distance Outside | Anchorage and Supplies |
|---|---|---|---|---|
| New York, N. Y. | South Amboy, N. J. | 19 Mi. | | Good docks. Not well protected. |
| New York, N. Y. | South Brooklyn | | | Marine basin. Hauling out, all repairs. |
| New York, N. Y. | Tompkinsville, S. I. | | | Anchor in 10 fathoms. Fast ferry service to New York. |
| New York, N. Y. | Tottenville, S. I. | | | Brown's Ship Yard. Good ways, all repairs. |
| South Amboy | New Brunswick, N.J. | 10½ " | | Tie up river or canal. Average tide, Raritan River, 6 feet. |
| South Amboy | Trenton | 42½ " | | Tie up in basin of canal. Stone bridge 50 feet clearance. |
| Trenton | Bordentown | 6 " | | Tie along side of dock. Early start will avoid traffic. |
| Trenton | Philadelphia and Camden | 28 " | | Tie at Camden Motor Boat Club. All supplies and repairs. |
| Philadelphia | Wilmington, Del. | 28 " | | Tie to any convenient dock. Some historical importance. |
| Philadelphia | Newcastle | 29½ " | | Tie to any convenient dock. Some local interest. |
| Philadelphia | Delaware City | 35 " | | Tie up in basin in canal. Keep fenders out on off side. |
| Delaware City | Chesepeake City, Md. | 12 " | | Tie up in basin in canal. Run slow. |
| Chesapeake City | Baltimore | 47 " | | Anchorage indicated by white buoys. Repairs, supplies. |
| Chesapeake City | Annapolis, Md. | 52 " | | Good anchorage. United States Naval Academy. |
| Chesapeake City | Old Pt. Comft, Va. | 175 " | | Good anchorage behind hotel. Soldiers' Home. |
| Chesapeake City | Norfolk | 185 " | | Tie up in basin at Wallace Bros. Supplies, repairs. |
| Baltimore | Annapolis, Md. | 13 " | | |
| Baltimore | Patuxent River, Md. | 55 " | | Anchor in cove. |
| Baltimore | Cape Lookout, Potomac River | 72 " | | |
| Baltimore | Old Pt. Comfort, Va. | 138 " | | |
| Baltimore | Norfolk, Va. | 148 " | | |
| Norfolk (1) | Elizabeth City, N. C. | 34 " | | Dock near steamboat landing. Several ship yards. Supplies. |
| Norfolk (2) | Coanjock | 43 " | | Best to tie up. |
| Elizabeth City | Harbor Island | 100 " | | Anchor in 15 feet of water. Sound for bar at entrance to Cape Sound. |
| Via Core Sound | Beaufort | 38 " | | Tie up to gasoline supply station. Supplies at Beaufort. |
| Coanjock | Royal Shoals | 90 " | | Fair anchorage, but not well protected. |
| Coanjock (3) | Beaufort | 50 " | | Pilots can be had at this point for remainder of trip. |
| Beaufort | Moorehead City | 3 " | | Dockage. Supplies, ship yard. |
| Beaufort | Bogue Inlet | 24 " | | Run slow in Bogue Sound and sound for channel at inlet. |
| Beaufort | New River Inlet | 37 " | | |
| Beaufort | Southport | | 117 Mi. | Anchor well off Signal Tower. Good supplies. |
| Beaufort | Winyah Bay, S. C. | | 162 " | Anchor above jetties. Very strong tides. |
| Beaufort | Georgetown | | 174 " | Strong tides, best to tie up. |
| Beaufort | Charleston | | 200 " | Anchor off Yacht Club. Supplies, repairs. |
| Georgetown | Charleston | 70 " | 62 " | Strong tide, best to tie up. Good ship yards. All supplies. |
| Georgetown | Savannah, Ga. | | 145 " | Keep clear of old docks. Good ship yards. All supplies. |
| Georgetown | Fernandina, Fla. | | 207 " | Keep clear of old docks. Good ship yards. All supplies. |
| Charleston | Beaufort, S. C. | 75 " | | Good dockage. Supplies. Railroad boat connections. |
| Charleston | Savannah, Ga. | 118 " | 95 " | Good dockage. |
| Charleston | Brunswick | 206 " | 145 " | Best to tie up. |
| Charleston | Fernandina, Fla. | 237 " | 160 " | Best to tie up. Provisions from tank wagons. Storm signal station. |
| Charleston | St. John's River, Fla. | 256 " | 180 " | Anchor off Mayport. |
| Charleston | Jacksonville | 274 " | 200 " | Good dockage. Repairs, supplies. |
| St. John's River | St. Augustine | 34 " | 33 " | Tie up to Power Boat Club dock. |
| St. John's River | Daytona | 80 " | | Good dockage. Pilots at Jacksonville or Mayport for inside passage to Miami where the water ways vary in depth from 3 to 7 feet, but boats of 4 feet draft can push through the soft bottom easily. |
| St. John's River | Mosquito Inlet | 91 " | | Shifting channel. |
| St. John's River | New Smyrna | 94 " | | Tie up to gasoline dock. |
| St. John's River | Titusville | 125 " | | Good dockage. |
| St. John's River | Cocoa | 141 " | | Good dockage. |
| St. John's River | Eau Gallie | 156 " | | |
| St. John's River | Fort Pierce | 201 " | | |
| St. John's River | St. Lucie Inlet | 220 " | | Shifting channel. Ask local authorities. |
| St. John's River | Jupiter Inlet | 235 " | | Shifting channel. Ask local authorities. Storm warning signal station. |
| St. John's River | West Palm Beach | 250 " | | |
| St. John's River | New River Inlet | 287 " | | Shifting channel. |
| St. John's River | Ft. Lauderdale | 289 " | | |
| St. John's River | Miami | 310 " | | Good dockage in the Miami river. |

(1) Via Dismal Swamp Canal.
(2) Via Albemarle and Chesapeake Canal.
(3) Via Pamlico Sound, Neuse River, Adams Creek and Canal.

The quiet bays in Florida are bordered by giant cocoanut trees, palms and other tropical verdure typical of this Paradise.

# Niagara--A Big One.

**A Moderate Draft, Raised Deck Motor Boat for Coastwise Service and Southern Cruising. Powered with Two 6½ x 9 Sterling Motors Arranged to Operate on Gasoline or Kerosene.**

THE Niagara was designed by J. H. Wells, and built by the Matthews Boat Co., of Port Clinton, Ohio, for Mr. Charles W. Kotcher, of Detroit. The general dimensions of the boat are: Length overall, 80 ft. 6 in.; waterline, 71 ft. 3 in.; beam, 14 ft., and draft, 4 ft. 6 in.

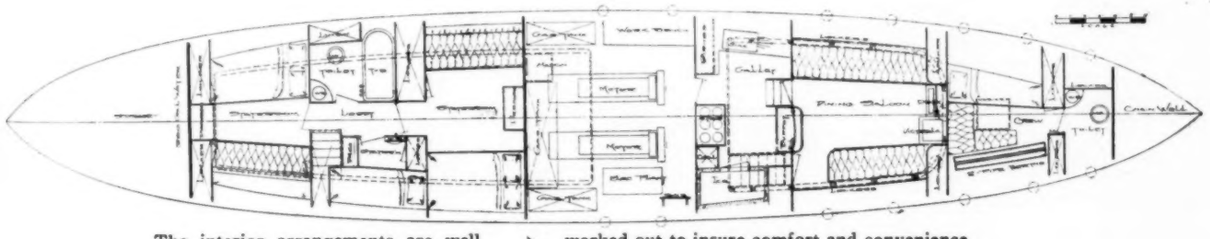
The boat is of the whaleboat form with a slightly raised deck forward, on which is built a low trunk over the dining saloon. The after part of the raised deck is devoted to the bridge, and from this point aft another trunk extends over the living quarters.

The motor room is directly beneath the bridge deck and two 6½" x 9", 6-cylinder Sterlings are installed, aggregating about 150 h.p. They are arranged to operate on either gasoline or kerosene. A particularly interesting feature of the power plant is the starting device developed by the Matthews Company who claim the motors may be started directly on kerosene. The electric plant is a one K-W Fay & Bowen outfit, which is also arranged to operate on either fuel. Below deck is very well arranged, the fore peak is used as a chain locker and is separated from the crew's quarters by a water-tight bulkhead. The forecastle is large and provides good accommodation for five men. Aft of this compartment is the main dining saloon which is fitted with wide transom seats, lockers, buffet, writing desk and Victrola cabinet. The galley is very large and extends the full width of the boat. Aft of the engine-room is a large double stateroom fitted with clothes lockers and a bureau. Aft of this room is a passageway which gives access to a single stateroom on the starboard side and a well-appointed bathroom on the port side, while the remainder of the cabin is given up to a double stateroom. The water tank is situated under the after deck and has a capacity of 200 gallons.

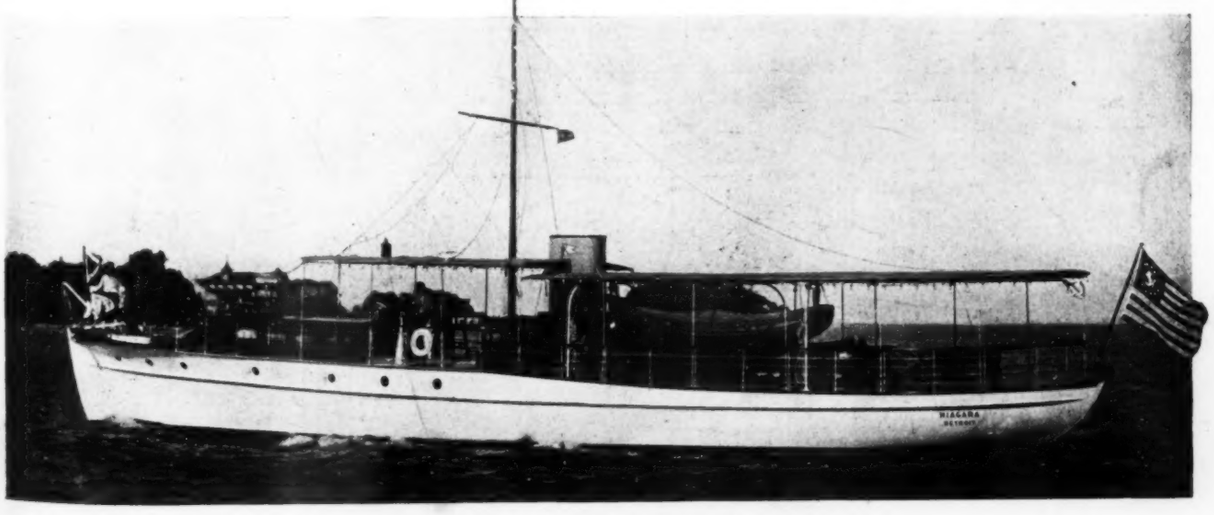
The engine-room is arranged with a water-tight bulkhead at the after end, which entirely separates this compartment from the owner's quarters. Access to the motor room is had through a door from the galley. The fuel is carried in three tanks which are situated in the engine-room. The main supply tank is placed against the water-tight bulkhead aft, while the small tanks are placed on each side of the compartment, in order that the best room can be utilized for the machinery. The motors are installed on long beds which are extremely heavy and rigid and consequently the vibration has been reduced to a minimum. A large work bench is placed on the port side, and convenient lockers are arranged for tools and spare engine parts. The electric plant is installed on the floor of the engine-room. This is a departure from the prevailing practice of placing the auxiliary motor and generator well up in the wing and allows easy access to all parts. An interesting feature is the sunken deck-house which gives the boat a very shipshape appearance. A powerful searchlight is mounted on the forward end of deck-house and is easily controlled from the helmsman's position by a suitable device. Two large anchors are carried forward, which are easily handled by a powerful windlass and davit.

The bridge is conveniently arranged to allow one man to operate and navigate the boat easily. The reverse levers project through the bridge floor on either side of the steering-wheel and suitable spark and throttle controls are arranged on the after end of deck-house. The bridge is fitted with a comfortable seat, which extends across the forward end of cabin trunk. The awning is supported by a stout pipe frame and extends well forward to protect the entrance to saloon from rain.

The deck space is extremely ample, both on the raised and main decks, and is well appointed aft with wicker chairs.



**The interior arrangements are well worked out to insure comfort and convenience.**

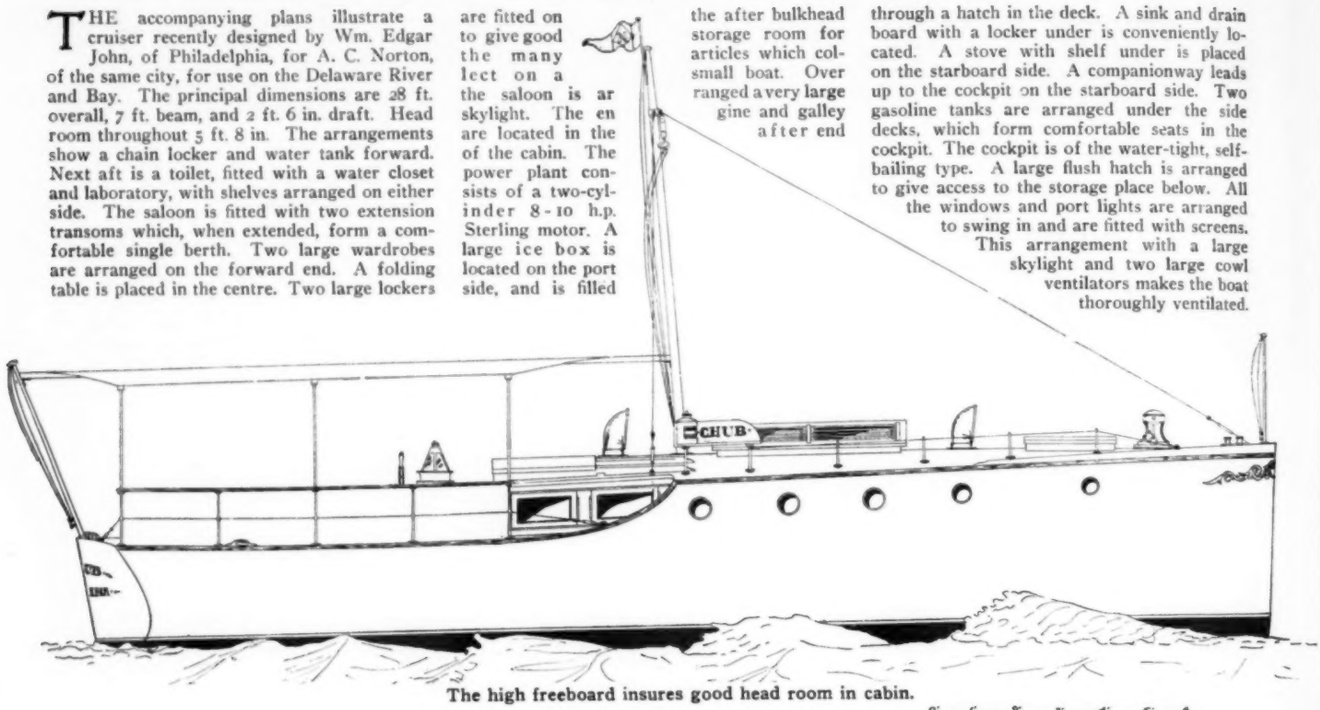


**Niagara, powered with two 75 H.P. Sterling motors, at full speed.**

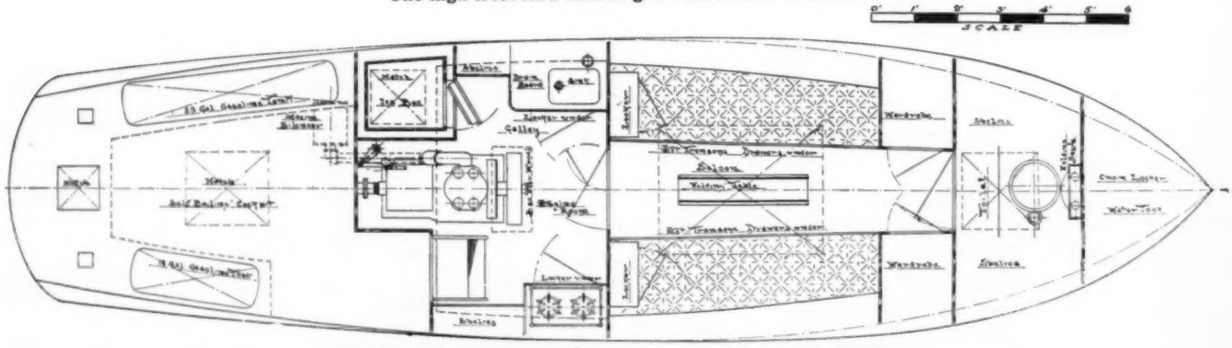
# A Boat for River Service.

## A Boat Designed for Comfort But of Pleasing Lines and Having a Fair Turn of Speed.

THE accompanying plans illustrate a cruiser recently designed by Wm. Edgar John, of Philadelphia, for A. C. Norton, of the same city, for use on the Delaware River and Bay. The principal dimensions are 28 ft. overall, 7 ft. beam, and 2 ft. 6 in. draft. Head room throughout 5 ft. 8 in. The arrangements show a chain locker and water tank forward. Next aft is a toilet, fitted with a water closet and laboratory, with shelves arranged on either side. The saloon is fitted with two extension transoms which, when extended, form a comfortable single berth. Two large wardrobes are arranged on the forward end. A folding table is placed in the centre. Two large lockers are fitted on to give good the many lect on a the saloon is ar skylight. The en are located in the of the cabin. The power plant consists of a two-cylinder 8-10 h.p. Sterling motor. A large ice box is located on the port side, and is filled the after bulkhead storage room for articles which col- small boat. Over ranged a very large gine and galley after end through a hatch in the deck. A sink and drain board with a locker under is conveniently located. A stove with shelf under is placed on the starboard side. A companionway leads up to the cockpit on the starboard side. Two gasoline tanks are arranged under the side decks, which form comfortable seats in the cockpit. The cockpit is of the water-tight, self-bailing type. A large flush hatch is arranged to give access to the storage place below. All the windows and port lights are arranged to swing in and are fitted with screens. This arrangement with a large skylight and two large cowl ventilators makes the boat thoroughly ventilated.

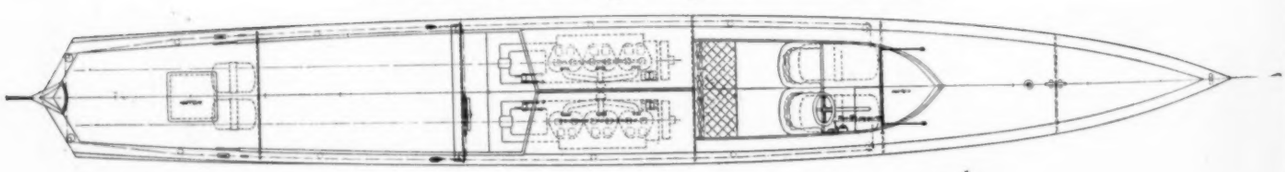


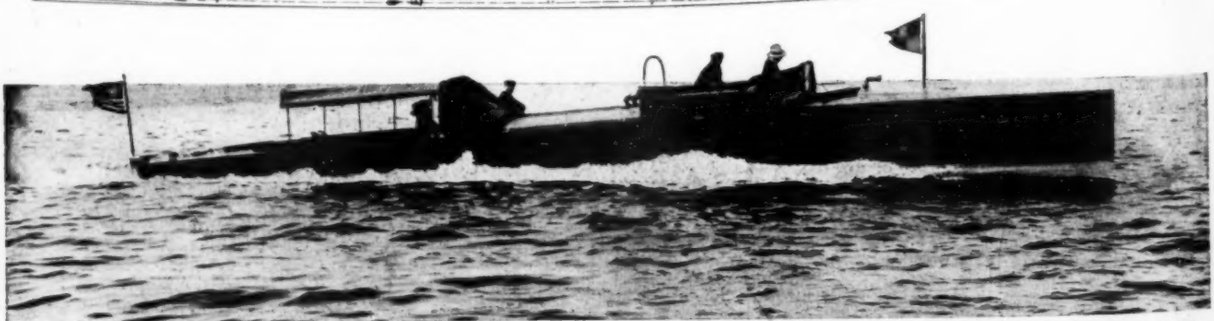

The high freeboard insures good head room in cabin.



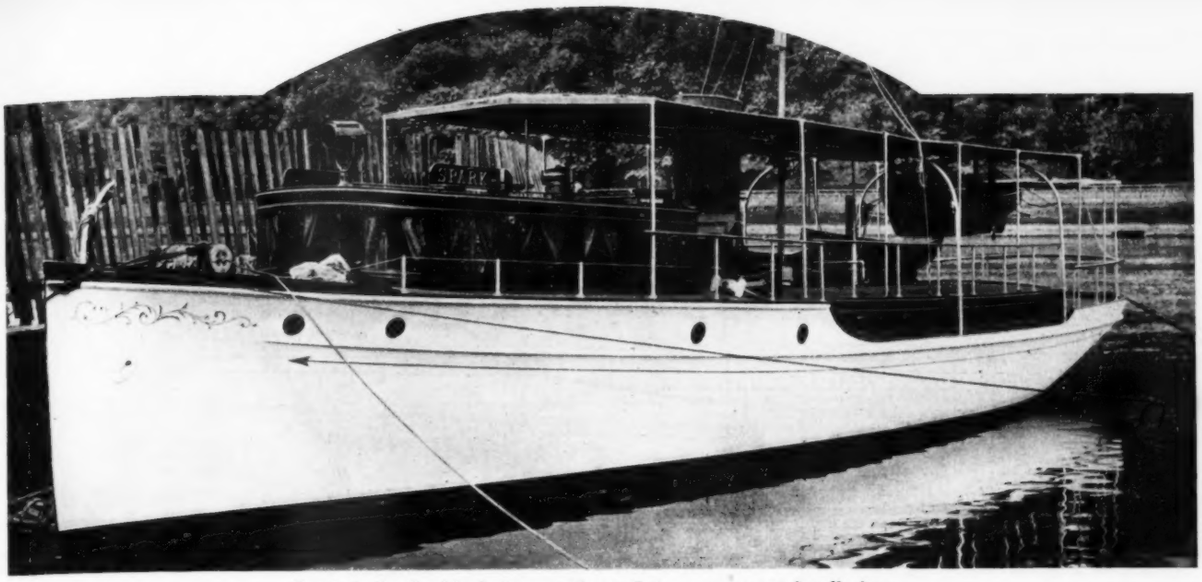
Cabin plan of Chub showing combined engine room and galley.

## A 55-Foot High Speed Runabout.





Cassandra was designed by Tams, Lemoine and Crane and was built by the Gas Engine & Power Co. and Charles L. Seabury & Co., Consolidated, for Herman Oelrichs of New York.



Spark is fitted with deck controls so that one man can handle her.

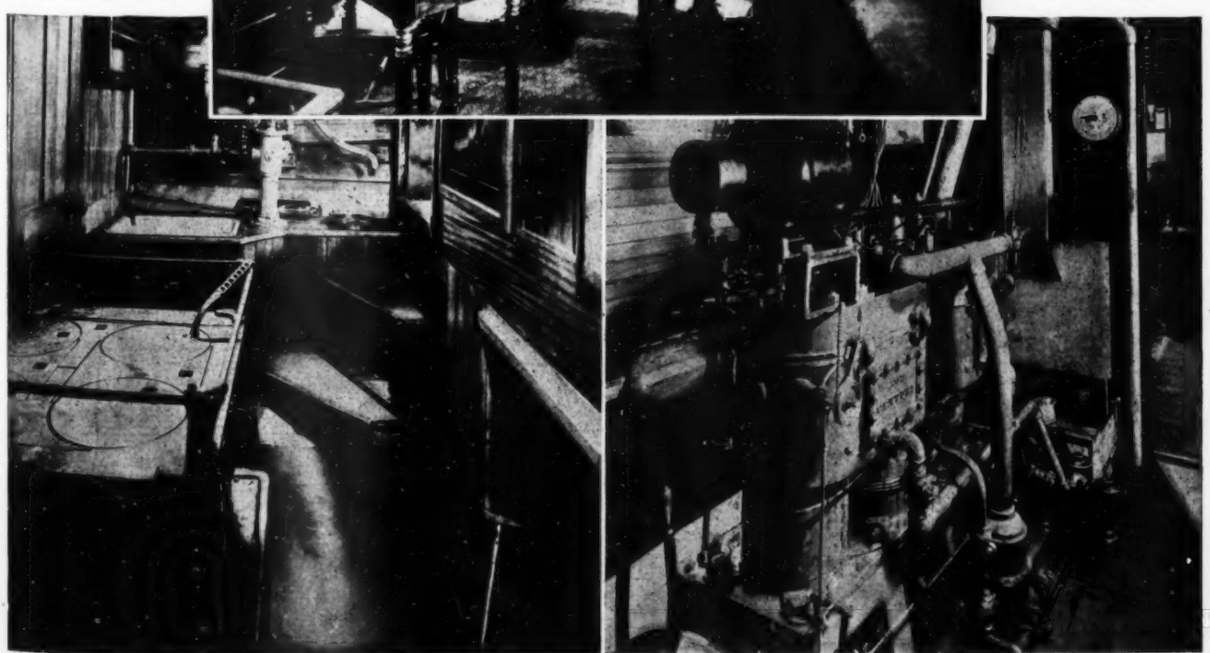
# A Comfortable 65-Footer.

## A Boat Designed for Extended Trips in Northern and Southern Waters. Offering a Maximum of Cabin Accommodations in a Well-Proportioned Hull.

THE accompanying photographs show the motor yacht Spark, designed and built by the New York Yacht, Launch & Engine Co., of Morris Heights, N. Y., for Mr. John Aspinwall. The Spark will make an exceptionally fine cruiser for Southern waters, as the draft is very moderate. The deck-house, which is low, is large and roomy and makes a very comfortable saloon. The owner's quarters are very commodious and handsomely appointed.

The boat is powered with a heavy-duty motor which is fitted with deck controls which enables one man to maneuver the boat easily. An independent electric lighting system is installed; the dynamo is bolted securely on top of the front cylinder and is belt-driven from the fly-wheel. The boat is constructed throughout of the very best materials, and a careful inspection reveals marked refinement in departments which have heretofore received only passing consideration. The frame is strongly constructed of oak and planked with selected yellow pine. The deck-house and all interior and exterior trim is made of solid mahogany. Two boats are carried—a power tender and a dinghy. The large deck, which is covered by a suitable awning, makes the boat especially attractive for Southern cruising in the winter months.

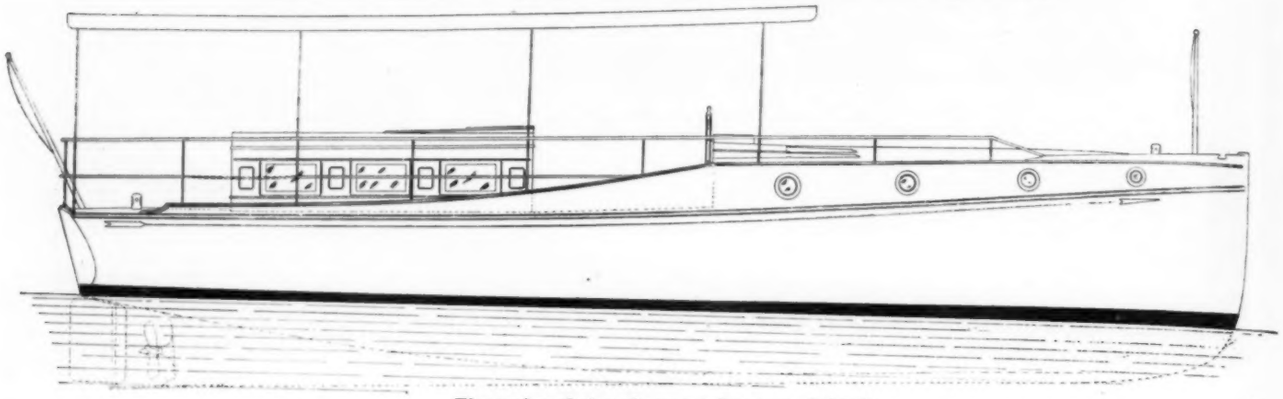
| | |
|---|---|
| Length overall | 65 ft. |
| Water line | 60 ft. 3 in. |
| Beam | 13 ft. |
| Draft | 3 ft. 6 in. |
| Motor | 4 cyl. 50 H. P. 20th Century |
| Owner | Mr. John Aspinwall |
| Designers and builders | N. Y. Y., L. & Eng. Co. |



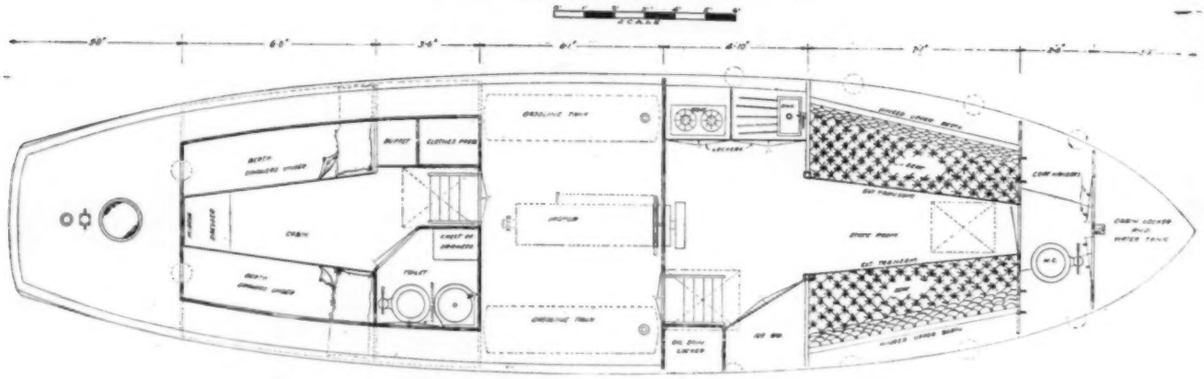
The top view shows the neatly appointed saloon. The lower right picture shows the 20th Century motor equipped with a "built-in" dynamo for electric lighting.

# A Comfortable 40-Footer.

## A Boat Offering Unusual Accommodations for a Large Party.



The outboard plan shows a refinement of detail.



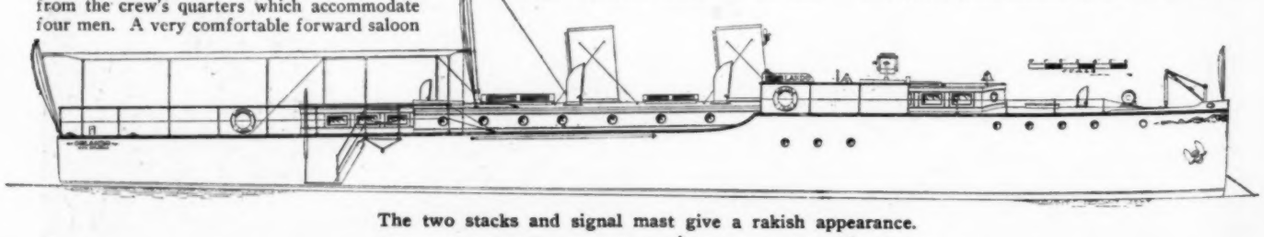
The two cabins afford excellent accommodations.

THE 40-ft. cruiser shown on this page was designed and built by the Weckler Boat Co., of Chicago. The cabin is very complete. Starting forward there is a large chain locker and water tank, furnishing running water to all connections. Following this is a toilet room fitted with pump closet, wash basin and coat hangers. Next aft is the main cabin, fitted with two broad settees, which are used as berths at night and have hinged backs that are suspended by means of chains from the ceiling, forming upper berths, so that four persons can be accommodated in this compartment. Following the main cabin is the galley, equipped with a sink with running water, stove and two large cupboards and dish racks. On the starboard side is a large refrigerator and an oilskin locker. The latter is fitted with a grating at the bottom, so that the water will drip into the bilge, and with a door that is well ventilated, so that the oilskins will not mildew. The location of this locker is such that all wet garments may be removed as soon as the cabin is entered from the deck.

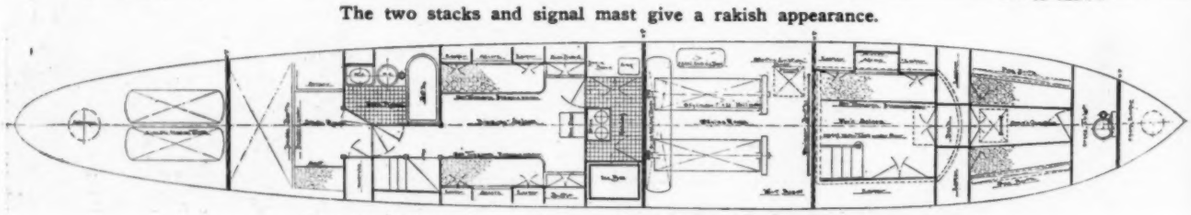
# A High Speed Cruiser.

## A Boat Suitable for Fast Ferry Service.

THE following drawings illustrate a high-speed cruiser designed by William Edgar John, of Philadelphia, of the following dimensions: Length overall, 72 feet; beam, 10 feet; draft, 3 feet 6 inches. A water-tight collision bulkhead separates the chain locker from the crew's quarters which accommodate four men. A very comfortable forward saloon is arranged with an extension transom, which, when pulled out, forms a double berth. A desk is conveniently located at the forward end. Lockers and an alcove are arranged on the port side and a large wordrobe locker on the starboard side. A companionway leads up on the starboard side to the bridge deck. The engine-room is located amidships between two water-tight bulkheads, which prevents any sounds or fumes going to the owner's quarters. The power plant consists of two Hall motors.



The two stacks and signal mast give a rakish appearance.



The cabin plan is very carefully worked out for a boat of this type.

# Margo a 64-Footer.

THE Margo was designed by John Trumpy for George H. McNeely, of Philadelphia, Pa., and was launched recently at the yards of the Mathis Yacht Building Company, Camden, N. J. This boat is 64′ long, 13′ 9″ beam and 3′ 6″ draft, and has a cruising speed of 11½ miles per hour. In type she is a raised-deck cruiser with the raised deck only extending over the crew quarters and continued a short distance back as a trunk cabin over part of the engine-room. The main deck is carried across the boat between forward and after trunk, giving her all the advantages of a flush deck boat. The steering stand and engine control is located at the after end of forward trunk. Her after deck has been kept as large as possible and gives plenty of room for a table and four large wicker chairs. The quarters below are reached through a companionway and stairway leading to the main saloon. This room is exceptionally large, measuring 16 feet in length and is arranged with two Pullman berths on the starboard side, and sofa with lockers and drawers on the port side. At each end of the sofa is located a buffet very attractively arranged for stowage of glass and silverware. At the forward end of the saloon is located a mantle, under which the hot-water radiator has been placed. The door on the port side of the mantle leads to the toilet-room and the starboard door to the galley. The owner's stateroom is aft of the saloon and is provided with two berths, one on each side of a large bureau. This room is also fitted with easy chairs and large rockers. In the galley is installed a speedway alcohol range and the hot-water heater furnishing heat for both owner's and crew quarters is also located here. The smokepipe leads directly up through the stack, which also serves as a ventilator for the galley. Forward of the galley and toilet-room is located the engine-room, where a 6-cylinder 6 x 8 Standard motor is installed; also electric light outfit, belt driven from the main motor. The crew's quarters are located forward under the raised deck and accommodation is provided for four men. The finish below is in ivory white and mahogany trim for the owner's quarters, and white enamel for the crew. Two copper gasoline tanks are installed.

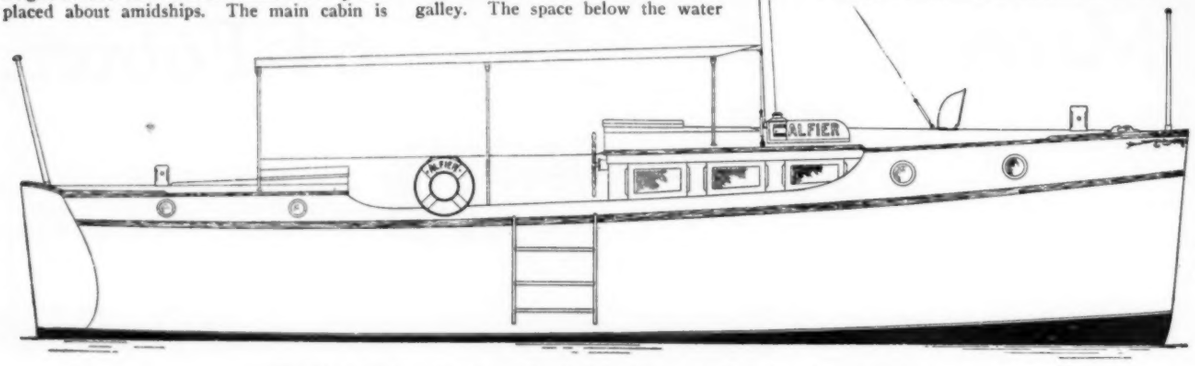
**The above views show Margo at full speed.**

**The artistic saloon is fitted with large easy chairs.**

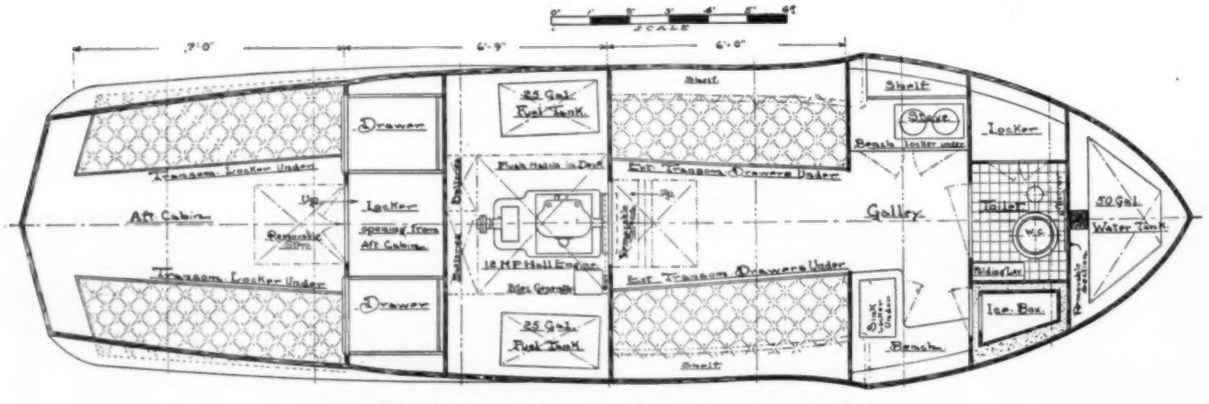
# An Able 30-Ft. Cruiser.

## A Safe and Comfortable Double-Cabin Boat for Unprotected Waters.

THE plans of a very able 30-footer are shown on this page from the board of Edwin L. Haggis, of Philadelphia, Pa. In some respects the boat is quite a departure from the ordinary raised-deck cruiser and offers unusual accommodations for a boat of her size. The motor is installed under the cockpit floor, thus the living quarters are kept free from the disagreeable heat and dirt from the engine. There is a large flush hatch in the cockpit floor which allows easy access to the motor. The gasoline tanks are placed one on each side of the engine and consequently the trim of the boat is not affected by the height of the fuel in these tanks as they are placed about amidships. The main cabin is very roomy and has six feet headroom, and being fitted with large windows is unusually light and airy. Two wide transom seats provide good sleeping accommodations for two. The bathroom is placed well forward and is handy but out of the way. The galley extends across the forward end of main cabin, the stove being placed on the port side, while the sink and china lockers are placed on the starboard side. A 50-gallon tank is placed in the forepeak which supplies water for the sink and lavatory, a pipe also leads from the fresh water tank through a coil in the ice box to a faucet in the galley. The space below the water tank is for the anchor chain which is led through a deck-plate above. Similar to the forward cabin the after cabin is fitted with two wide berths supported by lockers. The forward part of the after cabin is made into large lockers which open into the after cabin, thus providing a good place to keep oil skins and other articles. The boat is powered with a 12-h.p. Hall engine which gives a speed of nine miles per hour. The spark and throttle controls are located on the bulkhead, near the steering-wheel. The reverse lever travels in a slot in the cockpit floor, thus allowing one man, easy control of the boat at all times. A large awning is carried well forward and aft.

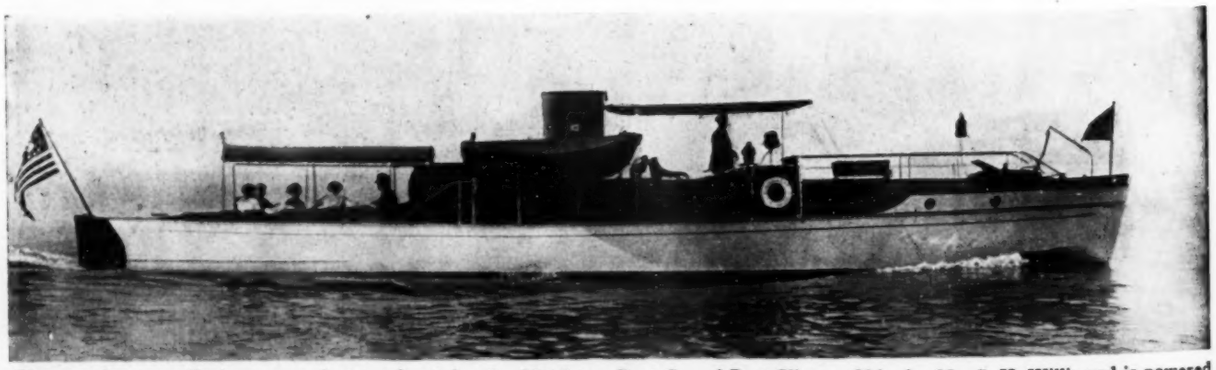



The high freeboard and small windows insure comfort in a heavy seaway.

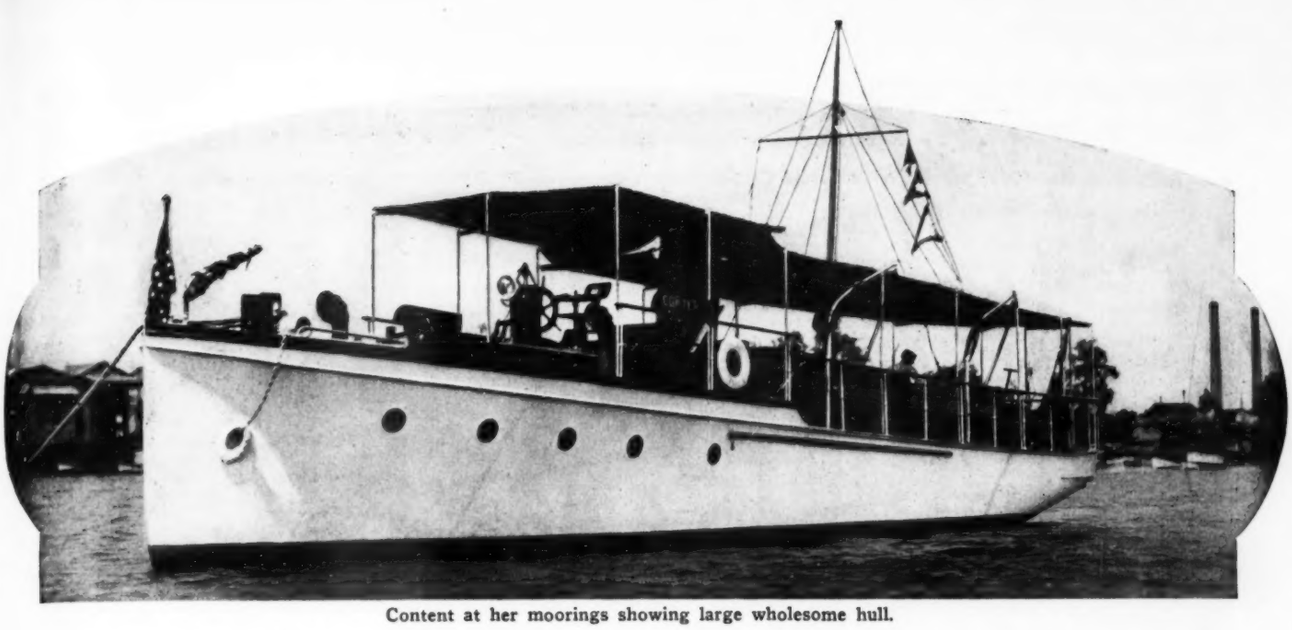



The cabin offers unusual accommodations for a boat of this size.

## A 60-Foot Twin Screw Express Cruiser With 150 H. P.



Eleanore is a 17 mile boat recently turned out by the Matthews Boat Co., of Port Clinton, Ohio, for Mr. C. H. Willis and is powered with a pair of six-cylinder 45-75 H. P. Sterling motors.

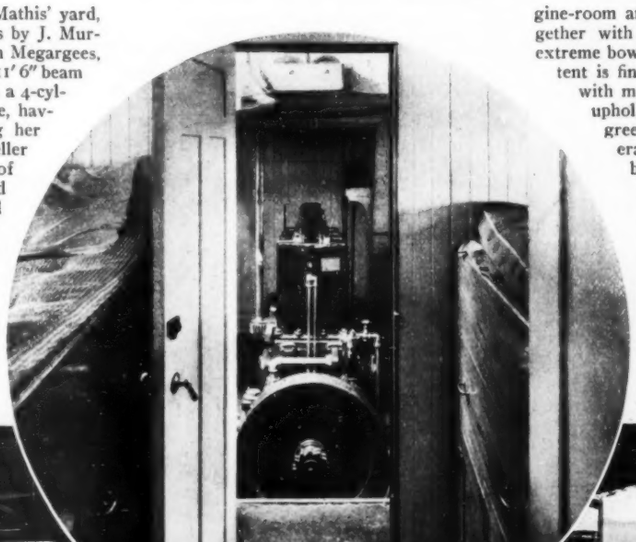


Content at her moorings showing large wholesome hull.

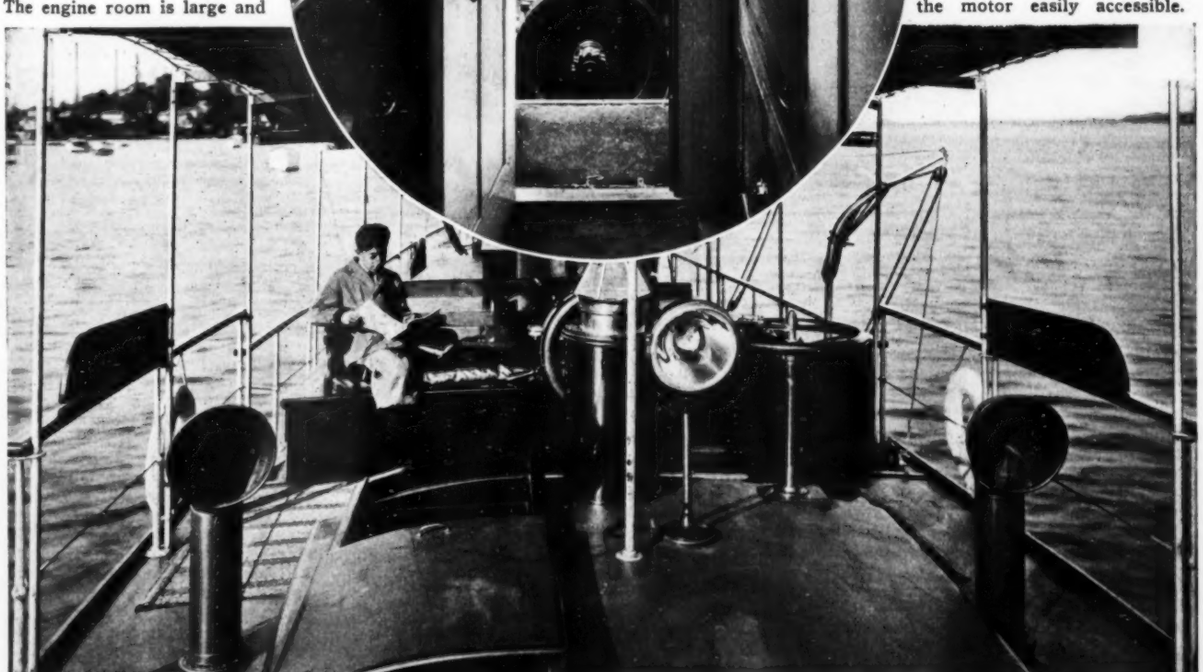
# An Off Shore Cruiser.

## Content, a 58-Footer, Designed and Built for Extended Cruising and is Powered With a Heavy Duty Ralaco Engine.

CONTENT was built at the Mathis' yard, Camden, N. J., from designs by J. Murray Watts, for Mr. M. Byron Megargees, and has an overall length of 58′ x 11′ 6″ beam and 4′ draft. She is powered with a 4-cylinder 4-cycle 50-h.p. Ralaco engine, having 7″ x 9″ cylinders, and driving her 34″ x 44″ three-blade Hyde propeller 375 r.p.m., which gives a speed of about 10½ knots. The ample and convenient family quarters and galley are reached by companionways fore and aft, and are isolated from the engine-room by a partition extending the full width of the boat at a point in line with the bridge. A hatch and ladder, just forward of the bridge, communicate with the engine-room and crew's quarters, the latter, together with its toilet, being situated in the extreme bow adjoining the chain locker. Content is finished throughout in white enamel with mahogany trim and furnishings, the upholstery and drapings being in dark green. She has her own electric generating plant, with auxiliary storage batteries for emergency. The 10′ x 13′ stateroom, amidship, is provided with bureau, large wardrobe and commodious single and double berths. The toilet, on the starboard side, is centered on the line of the partition separating the stateroom and saloon, and is provided with doors communicating with both these compartments. The saloon is fitted



The engine room is large and the motor easily accessible.



The spacious decks and ample awnings insure comfort on hot days.

The large windows and sky lights provide good light and ventilation.

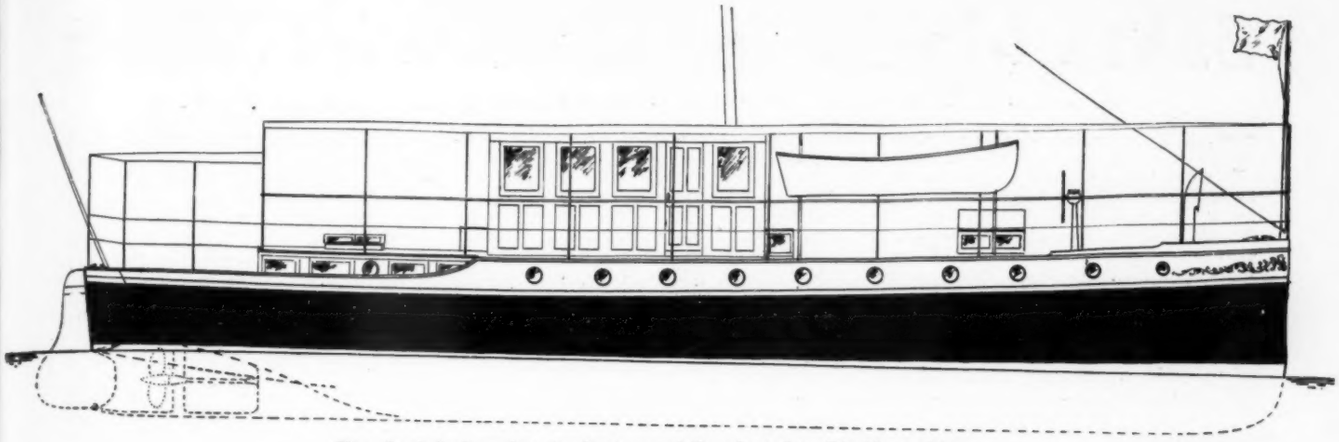
on either side with couch-berths, and on the port side, and corresponding in size and placement with the bureau in the stateroom, is a neat buffet with leaden glass doors. The table is so placed as to permit of the use of a lounge on one side, with ample room for chairs on the opposite side of table and at both ends. Aft of the saloon is a 5′ x 10′ galley communicating with the flush after deck, and separated by a movable partition from the tank compartment in the extreme stern, which provides room for the gasoline and water tanks which have a capacity of 140 gallons each. The after deck is carpeted with grass matting and furnished with green wicker and collapsible cane reclining chairs, being fitted with a threaded brass socket for attachment of the saloon table when it is desired to dine on deck; shade and shelter is provided by an awning extending forward to the bridge.

A separate 1-kilowatt Fay & Bowen electric plant of 40 volts and 25 amperes gives an even current for the Tungsten camps or storage batteries. There is a large search-light installed forward for night work, which is operated direct from the generator. Two boats are carried on davits, a gig and a large power tender.

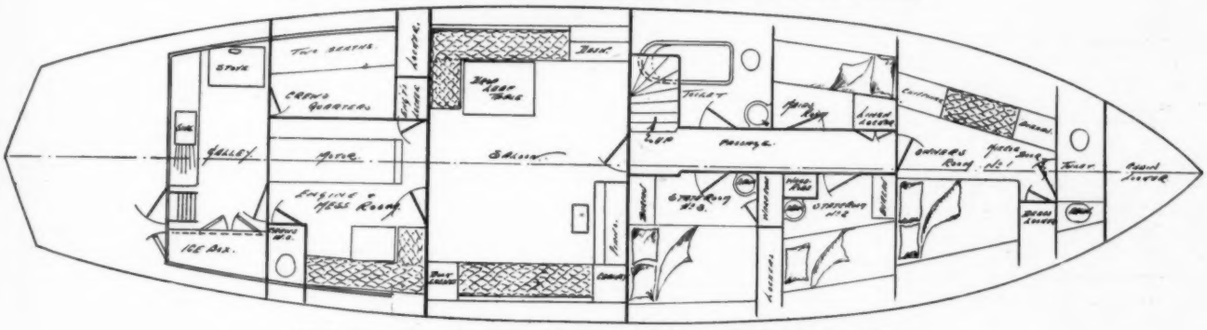
# A 60-Foot Shoal Draft Cruiser.

## Suitable for the Inland Waterways of Florida and for River Service.

THE plans of the projected house-boat shown on the opposite page are from the board of the Luders Marine Construction Company, of Stamford, Conn. The designers have endeavored to incorporate the pleasing lines of a cruiser and the cabin accommodations of a house-boat in a composite model having a fair turn of speed in conjunction with seagoing qualities. The engine-room is placed well aft which allows the roomiest portion of the boat to be devoted to a spacious saloon and large staterooms. The forepeak is used as a chain locker, aft of which is a small toilet-room which is entered from a single stateroom which extends the full width of the boat. This stateroom is fitted with a double berth on the starboard side and has a wide, comfortable seat on the port side besides good clothes lockers and drawers. Aft of this compartment are two single staterooms, one on each side of the boat and are fitted with suitable dressers; aft of the twin single staterooms is a large well-appointed bathroom on the port side and a stateroom of similar size opposite on the starboard side which is fitted with a large bureau, wash basin, etc. The main saloon is unusually spacious and extends the full width of the boat. The crew's quarters and engine-room are combined, but are not cramped in any way. The pipe berths for the crew are placed on the port side and also the clothes lockers. The starboard side of this department is given up to a long transom seat and a table. Aft of the engine compartment is the galley which has a large, coal stove on port side and ice box opposite on starboard side. The galley and engine-room are entered from a hatchway leading to the after deck which, on this boat, corresponds with the forecastle deck on other boats, as the crew's quarters are aft. The deck-house is large and comfortably appointed and the large windows afford an unobstructed view. The deck-room is very spacious and is covered by an awning which is supported by a substantial pipe frame and extends the full length of the boat. The steering-wheel is placed well forward and enables the helmsman to see sand bars and other obstructions. The under body is so shaped that the boat can be easily maneuvered in very shoal water. A powerful windlass will be fitted forward and large anchors will be carried, which will prove an efficient means of floating the boat in case of grounding.



The shoal draft makes the boat especially adapted to Florida cruising.

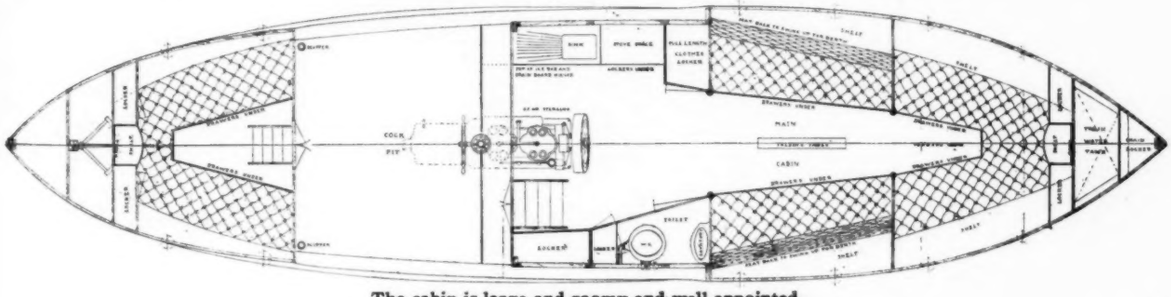


Well proportioned arrangement plan of the Luder's 60' house-boat.

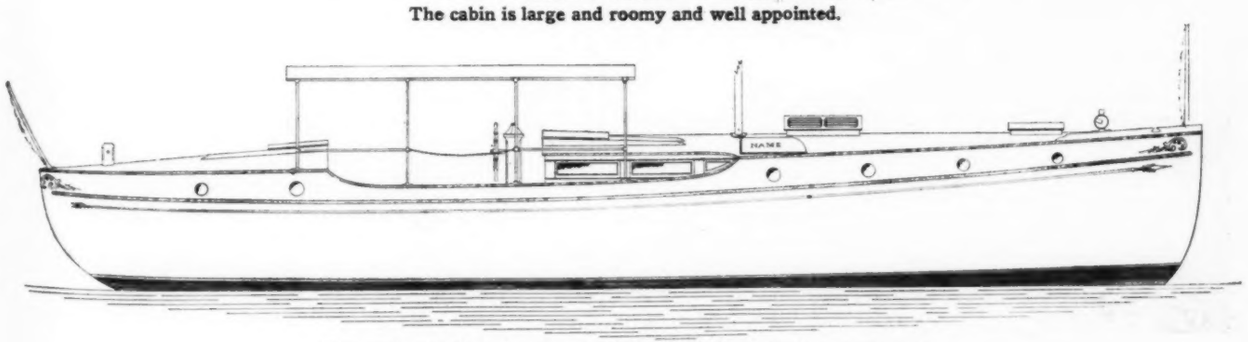
# A Boat With Unique Features.

## A Small Cruiser Offering a Maximum of Accommodations and Comfort.

THE plans of Lottie G., a 40-foot double-ended, raised-deck cabin cruiser are shown on this page. The boat was designed by Otis H. Downs, of Englewood, and built by Andrew Hendrickson, of Englewood, for Mr. H. E. Goetze, of the Colonial Yacht Club. The boat has a comfortable cockpit amidships with a small bridge deck running across the forward end, which is wide enough to allow the after cylinders of the motor to come under it and insures accessibility to all parts of the motor, since the forward end of same is in the cabin. The main cabin is very large. This is partly attributable to the fact that the cabin is not cut up by numerous partitions. The transoms are very wide and a cozy corner arrangement of cushions is carried well forward, which proves unusually comfortable. Ample shelves and lockers provide a place for everything, big or small. The toilet room is partitioned off and provision is made to cut the galley off by means of a heavy curtain. The large windows, skylights and ports insure an abundance of air and light. The after cabin has sleeping accommodations for two. This compartment has good head room and is very comfortable. The boat is heavily constructed throughout, having large oak keel and oak steam-bent frames. The planking is 1¼-in. yellow pine, fastened with copper nails, riveted over burs. A substantial pipe frame supports a large awning, which protects the cockpit and occupants from rain or sun.



The cabin is large and roomy and well appointed.



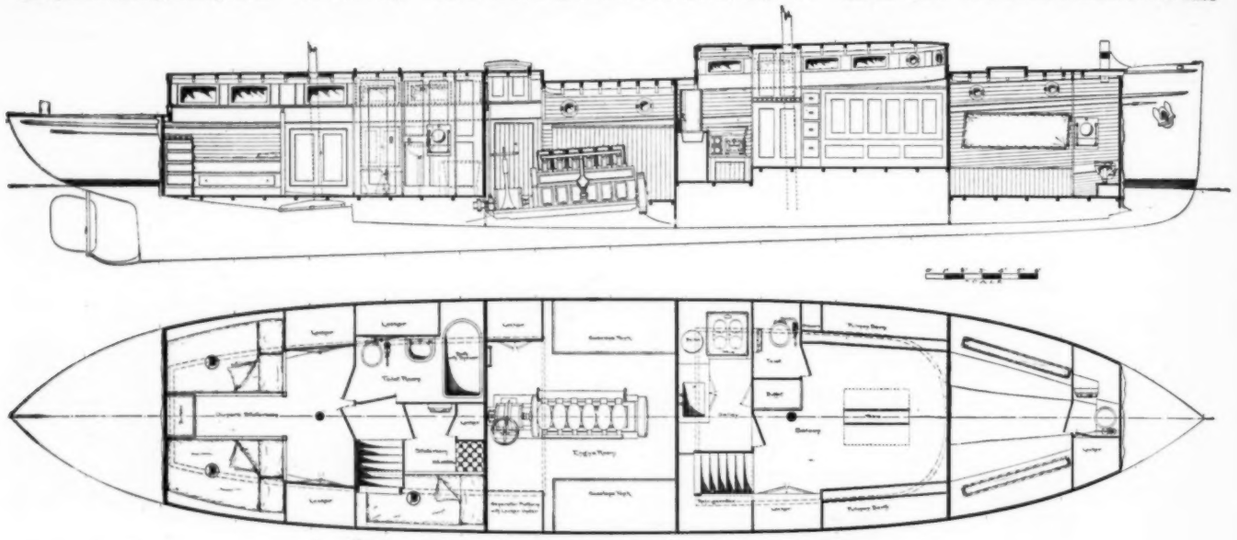
The outboard plan shows a carefully worked-out deck arrangement.

# Santa Maria, for Coastwise Work.

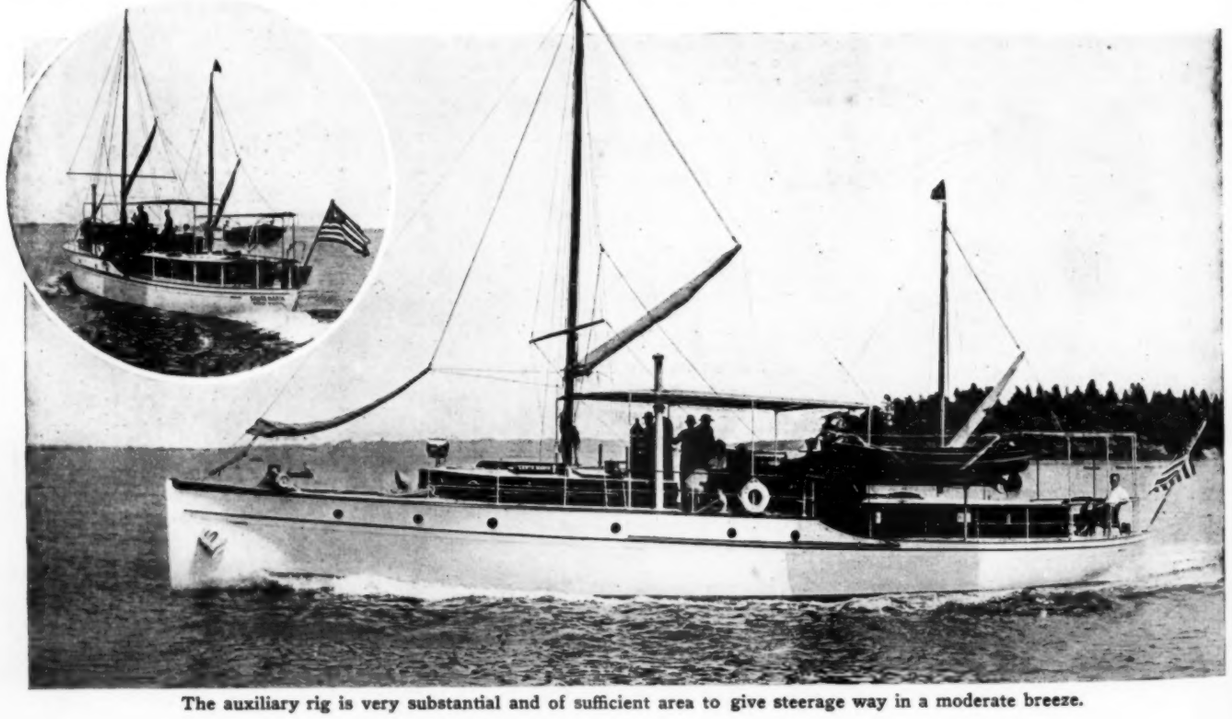
## A Boat of a Type Which Is Very Popular for Long Cruises in Open Water.

THE accompanying plans and pictures show a very interesting type of auxiliary motor boat, which was designed and built by F. S. Nock, of East Greenwich, R. I., for Dr. W. S. Dennett, of New York City. The dimensions of the boat are 64 ft. overall, 12 ft. 6 in. beam and 4 ft. 5 in. draft. This craft was designed with the idea of having a comfortable, sea boat for use along the coast, and has proved exceptionally able. Her auxiliary rig is very substantial and the sail area is sufficient to allow the boat to be easily handled in case the motor fails to operate. The main power plant consists of a six-cylinder 6 by 10 Loew Victor heavy duty motor, which gives a cruising speed of 12 miles per hour. The crew's quarters are arranged well forward and are very ample. Several novel features have been carefully worked out in the equipment of the saloon. Pullman berths are so arranged as to be practically out of sight during the day when folded back. The toilet room is forward and is entered from the saloon; this is a departure from the prevailing practice of having the bath room in the main cabin on this type of boat; but with the above arrangement the saloon offers additional sleeping quarters and the necessary conveniences. A four-hole Shipmate stove with a hot water boiler, sink, coal and wood lockers, large refrigerat, provision locker, shelves, etc., completes the galley equipment. The engine-room is located in the center of the boat aft of the galley and is unusually large for a boat this size, and is so arranged that the motor is easily accessible and all small fixtures conveniently located. The main gasoline tanks situated on either side of the engine-room and thus as the fluid is used up, the trim of the boat will not be materially affected. A Fay and Bowen direct connected generating set is situated on the starboard, of motor compartment and furnishes current for the electric lights throughout the boat. The port side of engine-room is given up to lockers and racks for tools and spare parts. Besides the main gasoline tanks in the engine-room there is also an emergency tank of 100 gallons capacity, situated under the saloon floor. The owner's stateroom is fitted with two large double berths, bureau, wardrobe and lockers.

Opposite the bath room on the port side, which is well appointed, is a small stateroom fitted with a single berth. The finish on the owner's quarters is white enamel with mahogany trimmings, which is very attractive. The saloon is finished in mahogany, crew's quarters and engine-room in cypress, natural finish. All the exterior bright work is mahogany.

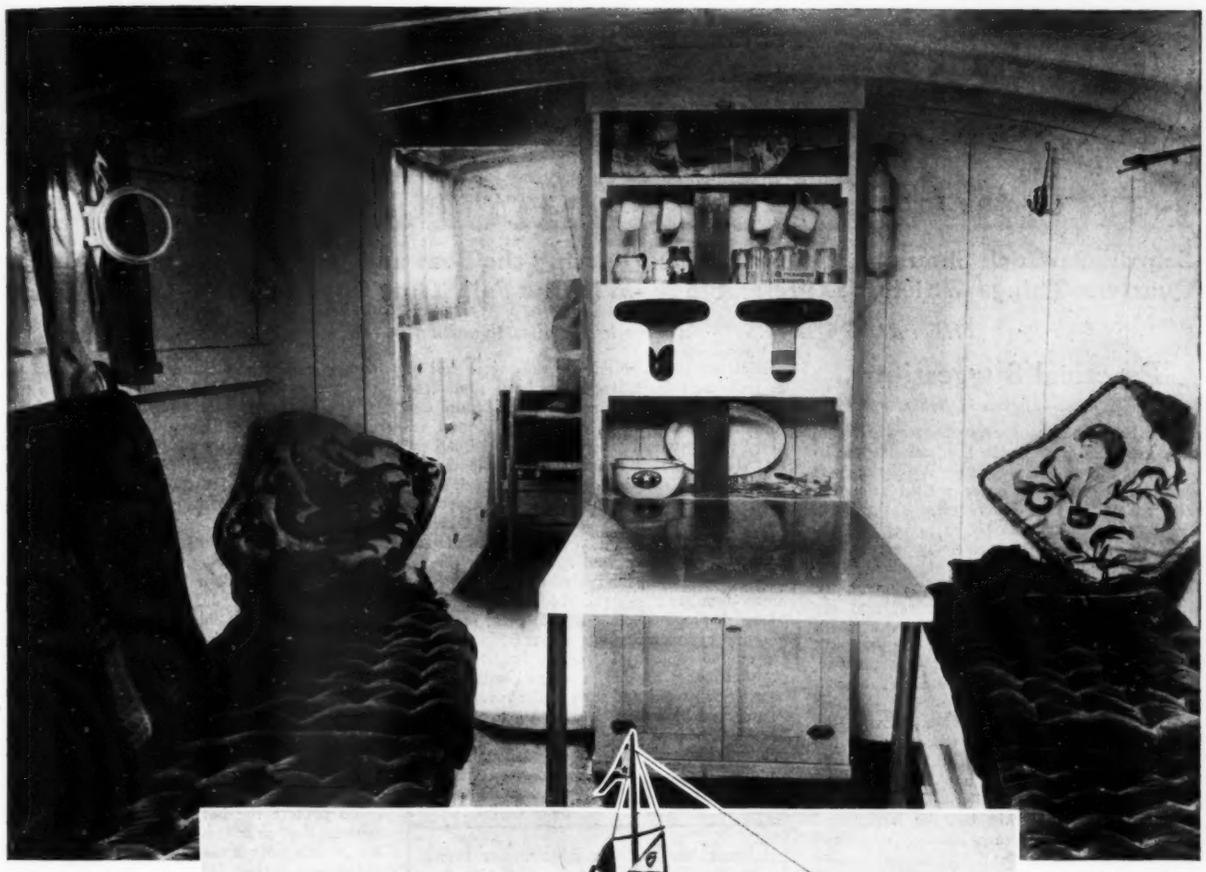


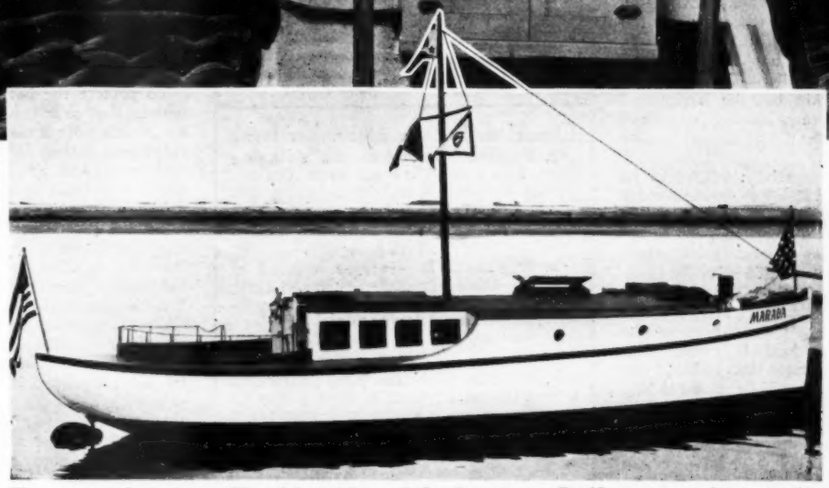
Santa Maria's cabin showing a well worked out interior.



The auxiliary rig is very substantial and of sufficient area to give steerage way in a moderate breeze.

# A Pacific Coast 36-Footer.






**The upper view shows Marada's cabin and the lower one Pacific coast cruiser practice.**

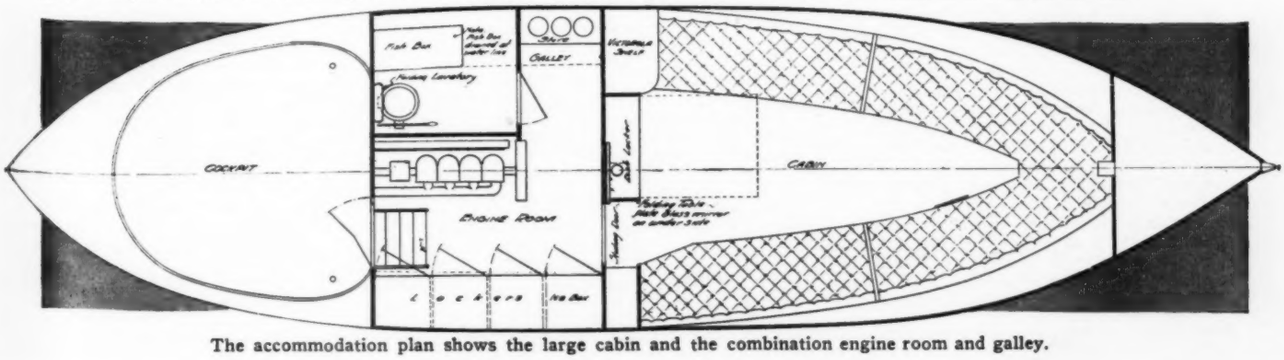
MARADA, a 36-footer, was designed and built by the Joe Fellows Yacht & Launch Co., of San Diego, Cal., for Mr. C. P. Perry, of Los Angeles. The construction of this model is very heavy. The keel, deadwoods, shaft log, stem and stern posts are made of white oak fastened with bronze rivets over washers. The planking is of selected cedar. Frames and floor timbers are made from selected white oak; the floor timbers are riveted through keel with bronze rivets. Clamps and stringers full lengths of yellow pine.

Marada is to be powered with a 4-cylinder 20-h.p. Campbell motor which should give the boat a speed of nine and one-half miles per hour. Electricity is used throughout for lighting, and modern plumbing is installed.

The dining table is arranged in a novel manner, in that the large plate glass mirror forms the bottom of the table. The dishes are passed through a serving hole from the galley. Another novel feature is the fish tank which has its bottom flush with the waterline. This box is entered through a section of the deck alongside the cabin. This allows a clear cockpit for fishing. A berth is also provided under the cockpit floor.

The dish locker also has an opening from the rear into the galley, which enables the dishes to be replaced when the dining table is closed. The boat suits the owner in every respect and reflects great credit upon the builder.

A large skylight and suitable ports insure good ventilation in warm latitudes.




**The accommodation plan shows the large cabin and the combination engine room and galley.**

# PRIZE CONTEST in QUESTIONS and ANSWERS

# Putting the Boat Out of Commission

**Schedules Which Should Be Followed When Putting the Boat and Its Power Plant Into Winter Quarters. Things Which it is Preferable to Do in the Fall. Time Required With Cost of Doing.**

*THE PRIZE CONTEST—Answers to the First Question in the August Issue.*

## Practical Suggestions.

(*Prize Won—Lockwood-Ash Motor.*)

THE chief aim of every boat owner is to keep his craft in the best possible condition throughout the year. While the craft is afloat she is given every needed attention, but just at the time she requires it the most, the owner's enthusiasm seems to lag and the little ship is too often hurriedly left on the beach exposed to the wind and the storm. The period between seasons is, without doubt, the time when depreciation is greatest and the combined use of good sound judgment and a little elbow grease in the fall of the year will make this factor an almost minus quantity. Therefore, the first point to be attended to is the hauling out.

Almost every boatman is familiar with the ordinary methods employed when hauling the craft out of water at the close of the season. Those with small or medium-sized boats use the parallel board and roller scheme, hauling with a three-part tackle, but the larger and heavier craft are generally handled in a rigid cradle, hauled out by the aid of a capstan over well-greased stringers.

Assuming the boat has been hauled to its winter resting-place (well up above high-water mark), the next thing is the proper blocking. To do this, first raise the keel from 18" to 24" above the surface of the ground (using a jack or large beam as a lever), and securely block the bilge, using 4" x 4" timbers placed on 1½" or 2" x 8" planks. The sketches at Fig. 1 and Fig. 2 explain this fully. Take care to see the boat is on a fairly level keel all around. For keel blocking, nothing better than railroad ties can be secured. These should be sawed in half lengths and piled alternately, as shown in Fig. 3 and Fig. 4. A boat thus blocked is in little danger of settling or falling throughout the winter and a person could work in or about the craft without fear. Next take a broad scraper and remove all the dirt and growth possible from the keel and bottom planking before the same dries hard.

Now comes the time for dismantling, and such things as cushions, curtains, mattresses, bedding, mirrors (if not built in), culinary and electrical equipments, whistle, steering-wheel, searchlight, etc., should first be removed to a dry place and given the necessary attention. The motor is an important item, and, of course, all circulating water should first be drained through the cocks or plug holes provided. It is then a good plan to close the (water) intake valve and run the motor a few minutes, thus allowing the jacket to dry thoroughly, next pouring in (from an extreme upper opening) a goodly quantity of light lubricating oil. Then drain off the gasoline and water tanks, together with their respective supply pipes. If the cylinder heads are of the removable type they should be taken off (mark each first for replacing), and the inner surfaces cleaned of carbon deposits. Kerosene will be of great help in this, only take care to remove every particle of the kerosene or the metal will be as rusty as though water had been applied by spring time. Next smear well the walls and top of cylinders with lubricating oil and revolve the fly-wheel several times to spread the oil. If the heads are not removable do the same through the spark plug or pet cock openings. The crankcase should be well wiped out and new oil injected. Care should be taken to see that the bearing surfaces of crankshaft and connecting rods are well covered with the lubricant. Take off all the smaller parts of the motor that are easily removed. Put an old set of spark plugs in place of the good ones and give the cylinder castings a coat of heat-resisting engine enamel. Cover the bright work or polished parts of the "machine" with a good coating of grease and turn to the reverse gear; this should be well packed with grease and the outside smeared over. The canver cover or rubber cloth you have used throughout the summer should then be tied down over the engine. Sever all the loose water connections to the galley pump and lavatory, giving the plungers a few strokes each.

Now that the "unctuous" duties are finished, clean up the boat thoroughly and wash out the interior with soap and water. Remove the plugs from the bottom planking to allow the water to drain. If the boat has no such plug holes, bore them with a ¾" bit, one on each side of the keel in the center of the garboard strake at its lowest part. These holes can be readily plugged in the spring. Open every locker lid, closet door or drawer and turn up the loose floor boards, allowing the same to lie out flat where possible to prevent their warping out of shape or fit. Give all the outside varnished woodwork a thorough washing and a thin coat of spar varnish; wash off the hull and put on a thin coat of paint; these both aid wonderfully at fitting-out time, for the hull is then about ready to receive the finishing coats. Now cover the brass work on decks with a thin coating of tallow and white lead mixture and open cabin windows slightly.

To protect the boat from the weather the best method is to cover as much of the craft as possible with a canvas sheet thrown over a ridge pole, lashed to the bow and stern cleats with stout twine and held in place (about 1 ft. above the cabin roof) by wooden uprights nailed to cleats of wood at their respective stations and braced by strong cord drawn tight and tied to the railing, chocks or cleats along the sides, as illustrated at Fig. 5 and Fig. 6 in the sketch. The canvas, however, should have first been purchased and turned over to a sailmaker for sewing, have the seams run crosswise, not lengthwise, with grommets set at every seam along the bottom edge of each side. In each grommet should be threaded a rope of suitable length to tie or hitch to the rope in the corresponding grommet on the opposite side. This style saves much labor and time when fastening; is much more preferred than the reefing or lacing method, and is more easily loosened and fastened when inspecting the interior during the winter. When the covering is lashed down and everything made tight, it will perhaps pay to bind a piece of canvas tightly around the exposed portion of the propeller shaft for protection to the key or keyseat and threaded end, as Fig. 7 in sketch. By carrying out these suggestions in the order specified, doing the work both neatly and quickly, and if favored by weather and friends, the medium-sized craft should be stored up safely in about three days' time and will then take on an appearance similar to that shown at Fig. 8 in sketch. If the boat is uninsured, by all means attend to it at this time, for a boat should never be denied this sort of protection.

PROPOSED SCHEDULE

(3 Days of Good Weather)

1st Day—Haul out, block, dismantle and clean.

2nd Day—Paint and varnish (early as possible), and make ready for covering.

3rd Day—Construct the supports and fasten the canvas.

### Questions for the December Issue

**1. Explain how to fit the swinging port lights in a raised deck cruiser, giving detailed sketches including the interior finish around the ports.**
(*Suggested by C. H. Christie, Saginaw, Mich.*)

**2. Explain a satisfactory method of cleaning the accumulated rust and scale from a fuel tank and a method of preventing sediment in the fuel.**
(*Suggested by W. B. Moores, Newburgh, N. Y.*)

**3. Discuss fully the most important points for an amateur or new comer to consider when selecting a design for a new craft.**
(*Suggested by C. E. Bradley, Fall River, Mass.*)

### Rules for the Contest.

Answers to these questions addressed to the Editor of MoToR BoatinG, 119 W. 40th St., New York, must be: (a) In our hands on or before October 25, (b) about 500 words long, (c) written on one side of the paper only, (d) accompanied by the senders' names and addresses. (The name will be withheld and initials or a pseudonym used if this is desired.) Questions for the next contest should reach us on or before the 25th of October.

The prizes are: For each of the best *answers* to the questions above, *any article* advertised in MoToR BoatinG, of which the advertised price does not exceed $25, or a credit of $25 on *any article advertised* in MoToR BoatinG, which sells for more than that amount.

(*There are three prizes, one for each question, an a contestant need send in an answer to but one if he does not care to answer all.*)

For each of the questions selected for use in the next contest, *any article* advertised in MoToR BoatinG, of which the advertised price does not exceed $5, or a credit of $5 on *any article advertised* in MoToR BoatinG, which sells for more than that amount.

For non-prize-winning answers published we will pay space rates.

ESTIMATED COST OF CRUISER
(For 30-foot Cruiser)

| | |
|---|---|
| Canvas covering, complete: Material, labor and fittings | $20.00 |
| Blocking timbers | 4.00 |
| Paint and varnish supplies | 4.00 |
| Grease and oil | 2.00 |
| Engine enamel | .25 |
| Miscellaneous (tallow, twine, nails, soap and soap powder | .75 |
| | $31.00 |

The covering equipment and blocking timbers should be stored safely away when not in use, and with a moderate amount of care should last several seasons, thereby greatly reducing the bill.

C. E. BRADLEY, Fall River, Mass.

attended to and not wait until spring, when factory and shop are rushed to the limit. It is most essential to drain all water from the water jacket, piping, water tank, etc., before freezing weather. It is a good plan to paint the engine; first thoroughly cleaning off all grease with gasoline and rubbing down lightly with sandpaper and then giving a coat of heat-resisting enamel, as painting is one of the best protections for the metal. Another method is to give all the metal a coating of grease, which is best done by melting some cup grease and applying, while hot, with a brush.

The spark plugs or igniter, coils, storage battery and magneto should be removed and stored in a dry place or preferably taken home.

A number of clubs are equipped with facilities for hauling and storing, in which case the cost is about half that charged at the yards, but you have to do the work or employ the labor in some instances.

A cabin boat of 25 feet or over requires some sort of a marine railway in order to haul out without a great deal of labor, and in issue of November, 1912, several excellent methods were described, but smaller and lighter craft may be handled by three or four men by laying down planks on the beach, placing rollers under the keel on the planks and rigging a tackle attached to a tree or post on the shore. Two large double blocks with sheaves taking about 1-in. rope should be used and so rigged that the hauling part leads away from the boat, as this gives more purchase and in case a windlass is not available and enough power

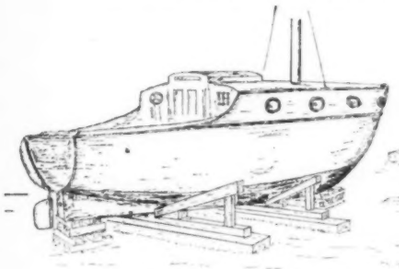


FIG 1. BILGE BLOCKING IN PLACE

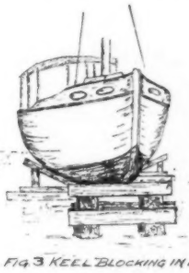


FIG 3. KEEL BLOCKING IN PLACE

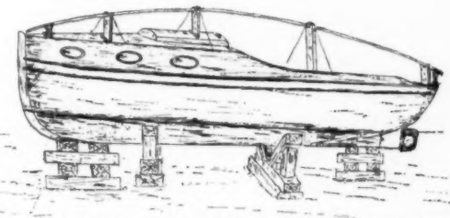


FIG 5. RIDGE-POLE IN PLACE READY TO RECEIVE COVERING.

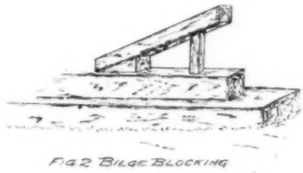


FIG 2. BILGE BLOCKING

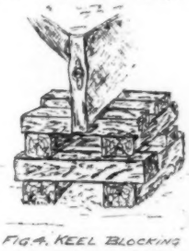


FIG 4. KEEL BLOCKING
USED AT BOW AND STERN

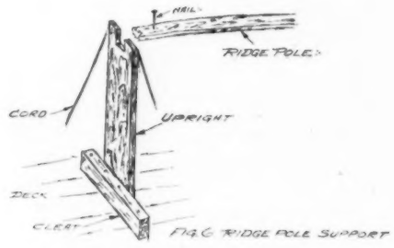



FIG 6. RIDGE POLE SUPPORT

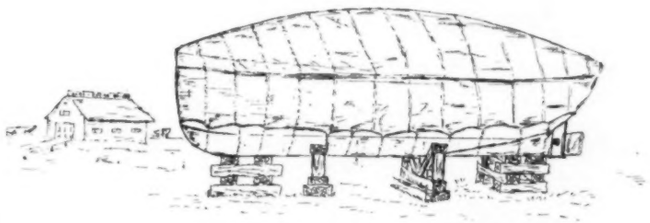


FIG 8. CANVAS COVERING LASHED OVER RIDGE POLE.

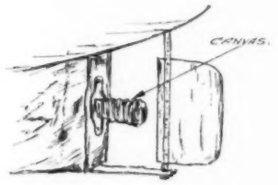



FIG 7. PROPELLER SHAFT PROTECTION

**Excellent arrangement suggested by Mr. Bradley for blocking up and covering a cruiser for the winter.**

## Deterioration Greater in Winter than Summer.

GOING out of commission is the one job we all dislike the most to tackle and the average amateur often neglects the essentials which will be the cause of much extra labor, time and expense the following spring. A boat and power plant will deteriorate more in one winter than in several summers if not properly laid up.

As soon as the boat leaves the water it should be thoroughly scrubbed above and below the water line, the plug removed and all bilge water drained out and bilges washed out with fresh water. When the boat is in the place she is to lay for the winter, see that she lays on an even keel, about a foot above the ground, and that blocking and shores are properly placed to prevent straining, after which the power plant should be overhauled, and if there is any machine work to be done or new parts necessary, this is the best time to have it

After these are removed put about a teacup of cylinder oil into each cylinder and drive a wooden plug into the holes left by the removal of the spark device. All gasoline should be removed from the tank, not forgetting to drain the carbureter and piping.

All movables, such as cushions, life preservers, curtains, bedding, tools, etc., not forgetting the mirrors, which are easily ruined in damp freezing weather, should also be stored in a good dry place.

Most owners, after a year or two, have found a favorite place for laying up. The local yards which make a specialty of this work in the vicinity of New York City charge on the average of $1.00 per foot overall, in the open, 25 cents per foot extra for supplying and covering with canvas and $1.50 per foot if stored under a shed; these prices include hauling out and launching only.

cannot be obtained then a second tackle may be clapped on to the hauling part of the first, which will increase the power four times. If the boat is too heavy to be readily held upright or has the propeller shaft hung on a strut, it is best to construct a cradle of 4x6 stuff, well braced, on which to float the boat, and then block her up well before hauling. This will also come in handy for launching. After the boat is in the place she is to lay for the winter and well blocked up on an even keel, if in the open it should be covered to keep out the weather. A good plan is to build a temporary shed of second-hand lumber and cover this with tar paper or canvas, being sure to leave an opening at each end for ventilation. Another plan is to place a ridge pole 3 or 4 feet above the deck, with light slats running from this to the rail, and covering with canvas. The canvas should come down well over the bilges and should be kept in place by rope lacing running under the keel. Do not nail battens along the sides, as this will leave bad scars, and there should be pitch enough to

carry off the water so it will not lay in pockets. The time required depends largely on the facilities at hand and the experience of the owner, together with the number of friends he is able to enlist in the cause, which are usually much harder to find in the fall than in the spring. But a little pains in the fall amounts to considerable in the spring.

H. W. Loweree, N. Y. C.

* * *

## Make a Schedule Before Starting.

IN regard to laying a boat and its power plant up for the winter it is always well to work out a schedule of the things to be done and then follow out the several steps carefully. The following is a plan I have used for several seasons and it has proven convenient and entirely satisfactory.

1. Choose a warm, dry day and give the sails, blankets, cushions, pillows, curtains, carpets and articles of clothing a good drying out. Hang these up in the sun if possible. 2. After the above articles are thoroughly dry sprinkle a few moth balls through them and then wrap the articles up in stout brown paper and stow away for the winter in lockers or other convenient places, which must be perfectly dry. Paper not only protects them from dirt, but from mice as well, as the latter prefer paper for their nests. 3. After the foregoing fittings have been removed, the inboard water supply to motor should be shut off and the water entirely drained out of motor. After the water has stopped running out, start the motor and run it as slow as possible until it is fairly warm, then stop. Be sure and leave all the jet cocks that drain jacket open so the steam can escape and the inside of jacket dry out. 4. Haul boat out and shore up securely, particularly under engine. 5. Let bilge water out through old hole or else bore new one. 6. Remove coils from engine and place in box. 7. Pour half a gallon of thick cylinder oil in which a pound of vaseline has been dissolved into each cylinder and then crank engine over three or four times. 8. Take hand plates off base and grease the crank shaft and connecting rods with vaseline or hard grease. Clean all bright parts and grease well. Pour oil into the bearings and clutch. 9. Do not cover engine with canvas, as this causes sweating. 10. Remove floor boards and slop two or three pails of boiling water and gold dust or lye around the bilge and allow it to run out. This will help keep the boat sweet and dry during the winter. 11. All sea-weed or slime should be scrubbed off the under body, which, when thoroughly dry, should be given a coat of copper paint. The top sides should also have a coat of paint, which has plenty of oil in it. This will help preserve the wood and will help prevent drying out. The desks, cabins or other varnished parts should receive a thick coat of varnish. 12. Clean all brass fittings on deck and grease well. 13. Build suitable house over boat with stout canvas, which should be fastened down with ropes, as it is a bad plan to drive tacks or nails into the boat. 14. Small boats or tenders that are slung under rafters should have the supporting ropes entirely around their planking, as this causes less strain. 15. All lockers should be left open and floor boards up, which will ensure a better circulation of air through the boat when covered up.

Ira Lake, N. Y. City.

## Schedule for a Medium Size Motor Boat.

AFTER the boat has been hauled out and firmly blocked up, the owner should go about the business of laying her up and getting her in fit conditions to outstand the winter's storms in the following manner:

| | Hrs. | Cost. |
|---|---|---|
| 1. Removal of interior furnishings, cushions, life preservers, clothing, etc., and the storing of same in a dry place | 1½ | |
| 2. Drain water jackets and gas and water tanks | ¼ | |
| 3. Pump out boat | ¼ | |
| 4. Remove or lift all locker covers and floor boards | ¼ | |
| 5. Scrape all grease out of bilge and then clean with strong soda water which must be sponged out | 2 | $.10 |
| 6. Remove all ballast and stow on ground | ¼ | |
| 7. Block up all doors with thin wedges, all doors except outside ones should be left partly open | ½ | |
| 8. Remove all carbon from combustion chamber either by scraping or regular remover | 1 | .50 |
| 9. Remove batteries and coils and dry in warm place | ¼ | |
| 10. Force cup grease to bearings and fill base half full of cylinder oil | ¼ | |
| 11. Screw spark plugs back in cylinder and wrap each one up in oiled rag | ¼ | |
| 12. Cover all parts of motor with cup grease or vaseline after polishing brass | ½ | |
| 13. Wrap all tools and loosen brass and steel fittings up in oiled rags | ¼ | |
| 14. Close and fasten windows and hatches leaving, if possible, one open aft and one forward for ventilation. Cover these with a canvas cover fastened well down | 1 | |
| 15. Sprinkle some non-staining disinfectant in cabin to prevent musty smell | ¼ | |

**Boat left improperly protected in the water all winter.**

OUTSIDE.

| | | |
|---|---|---|
| 16. Clean and scrub cockpit and deck | ½ | |
| 17. Polish all deck fittings, wrap with *strips of rag* with vaseline or grease | ½ | |
| 18. Cover entire boat with waterproof canvas cover laid over a ridge pole being sure that there are no slack places in cover to collect water which will leak through on to deck. Canvas should be fastened at least one foot below deck line by tacking strips of lath *along the edge* of the canvas | 1 | 3.00 |
| 19. Make sure that the boat is strongly shored and is in no danger of sagging due to not enough blocks being under it | ¼ | |
| | 11 | $3.60 |

This eleven hours of work will save 18 to 20 hours when spring comes.

G. T. W.,
New York City.

* * *

## Lots To Do in the Fall.

IF YOU have never had experience in hauling out and shoring up a heavy boat, have this done at a boat yard. Be on hand when the boat comes out to see that the bottom is scrubbed free from grass and barnacles before these dry on. At the same time search for open seams and loose calking. Drive out the plug and see that the boat rests on the keep blocks in such a way that any rain water will drain through the plug hole, and remove all ballast to prevent straining the hull.

As to the motor, it is better not to take it out of the boat, unless it is necessary to send it to the makers for repairs. Assuming that the engine has developed no serious defects, proceed to put it in shape for the winter as follows: Open the drain from the water-jackets and revolve the fly-wheel to pump out all you can. Take off the check valve caps from the pump and dry out the valves. If for any reason the engine cannot be drained, disconnect the water intake and put it into a gallon of denatured alcohol, revolve the fly-wheel and pump in the alcohol. This will prevent freezing.

I strongly recommend a search for defects before the engine is left for the winter. If any are found, plenty of time is available to have them repaired. So take off the cylinder heads and examine the bore carefully for scratches. If present, they indicate a broken piston ring which should be replaced. If the bore is smooth and compression good, there is no need of taking out the piston. If the bore is smooth, but compression poor, look for a sticking piston ring and soak it in gasoline to loosen it. Scrape out any thick carbon deposit from the cylinder and cylinder heads and pour enough lubricating oil into each cylinder to cover the walls. Put back the cylinder heads with new gaskets.

Remove the hand-hole plates and examine the connecting rods; if there is little or no slack between them and the crank try the nuts with a wrench, and if these are tight put back the hand-hole plates.

The valves of a four-cycle motor should be examined, if the compression is poor or the engine weak, to see that they all seat properly; if none of the stems are bent or heads burned or warped, simply grind in the valves. Close the cylinder relief cocks and smear the entire outside of the engine with vaseline, giving especial attention to the moving parts. If there is a storage battery aboard, have it fully charged, pour out all the acid and fill it with rain water and put it in a warm place where it will not freeze.

If the cabin is tight, it is not necessary to carry bedding ashore, if the following scheme of ventilation is carried out. I have found that it keeps everything sweet and free from mildew. Open the ice box and all lockers, take up a board from the cabin floor and spread the bedding so that it can air out. Stand the mattresses on edge in the gangway and cover the tools and iron cooking utensils with cylinder oil.

Open wide two ports on opposite sides of the boat. Get a tin fan twice the diameter of the port and cut it in two pieces as you would a pie. Tack up one-half over each open port in such a way as to prevent rain and snow from driving in.

If the boat is exposed to the weather, it is good economy to invest in an old sail and a piece of 2 x 4 spruce long enough for a ridge pole. Give a steep pitch to the sides of the cover and fasten the edges under the boat.

Estimates of Time and Material

Scrubbing, 1 to 6 hours.
Motor inspection, 4 hours.
Preparation of cabin, 2 hours.
Preparation of cover, 3 hours.
Maximum total, 14 hours, at 50 cents per hour.....$ 7.00
Maximum cost of material for cover 10.00

Total, exclusive of hauling.....$17.00

R. W. L., New Haven, Conn.

# Protecting the Bow and Stern.

**Several Methods Which Tend to Reduce the Liability of Injury to the Bow and Stern of the Small Craft Both Open Boat and Cruiser.**

*THE PRIZE CONTEST—Answers to the Second Question in the August Issue.*

## Protection Should Be of Metal.

*(Prize Won—Credit with C. D. Durkee & Co.)*

ONE of the most efficient means of protecting a stem from injury is to use a band or casting. In high-speed boats with very sharp bows, a "V"-shaped casting is made and carefully fitted, being fastened with long screws. The countersinks can be filled with lead. This arrangement on a heavier scale would work equally well on a large cruiser and is very much used. A handsome, as well as efficient, job can be made by fitting two plates of tobin bronze on the flat sides of the stem, riveting them through and through. The forward edges are soldered where they come together; this prevents the water entering the seam. A good shape for these plates is shown in the sketch.

A cheaper, but quite as good, protection is accomplished by making a band of plain flat iron, or half-round iron or brass. Any of these are easy to get, and, moreover, are very easy to work, which is something for the amateur builder to consider. Of course, this stem does not make as clean an entrance as the former, but in the ordinary cruiser it's resistance is negligible.

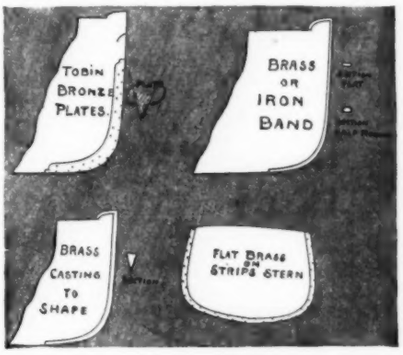
For the flat stern, strips of flat brass sawn to shape and put on with brass screws form ample protection. Or a "V"-shaped casting covering both the edges and the sides is even better, though more expensive. Very few canoe sterns are given any protection, except at the top, over which a brass plate is all that is needed. There is a combination stem-head on the market that works very well for either the bow or stern of a double-ender.

Of course, such protections as rope and leather fenders along the side and at the bow might be mentioned, but these are usually considered part of every boat's equipment.

C. D. Davis, Marblehead, Mass.

## Several Methods.

THE bow on all small boats should have a metallic protection such as a half-round brass or galvanized iron strip fastened to it by screws. In speed boats this is refined by making a strip conforming to the contour of the bow, the strip being wedge-shape in cross-section and having thin, flat sides extending back from the wedge. These overlap the sides of the stem and sometimes extend back




**Methods of protection suggested by Mr. Davis.**

over the joint between the stem and the ends of the planking. Such an arrangement not only affords ample and much needed protection to the bow, but presents a knife-edge to the water.

In constructing the stem some builders cut the lower part of it down to a narrow edge from a point slightly above the water line and keep the upper part of the stem quite wide to give it additional strength and protection against injury from collision.

Bow fenders are very useful in the smaller boats such as tenders, not only for protecting the bows of the tenders, but for preventing them from marring the larger boats with which they are used. The neatest and probably the most effective way of protecting both the bow and stern of a tender or dingey is to lash a rope around its gunwale. A white cotton rope of about an inch diameter is suitable for this purpose as it is soft and has an attractive appearance.

The stern of a double-ender may be protected by a half-round metallic strip like that on the bow. The round or fantail stern always has some kind of a rub strake, generally one or two molding strips running around it horizontally. One of these should be of metal or faced with metal, as such a stern is subjected to considerable wear.

A square transom stern such as is commonly found in hydroplanes and speed boats is troublesome because of the fact that the ends of the planking, which is often of soft wood, are unprotected and are especially vulnerable because of the rivets or screws which pass through the planks near these ends so that they increase their tendency to check and to split.

About the only way to protect this part of the boat is to fit all the way around the outside of the edge formed between the transom and the planking a brass corner molding which overlaps both the transom and the planking for two or three inches. This should be depressed into the planking so that it is flush with the surface of the boat and great care should be exercised in fastening it securely.

The foregoing suggestions are all based upon the assumption that the boat is properly constructed to give both its bow and stern the rigidity and strength required to withstand the knocks which they are bound to get in service, but these simple additions should make them last considerably longer.

E. W. W., N. Y. City.

# Storing the Life Preservers.

**Several Schemes of Caring for and Protecting from the Weather this Important Part of Every Boat's Equipment Which is Required by Law.**

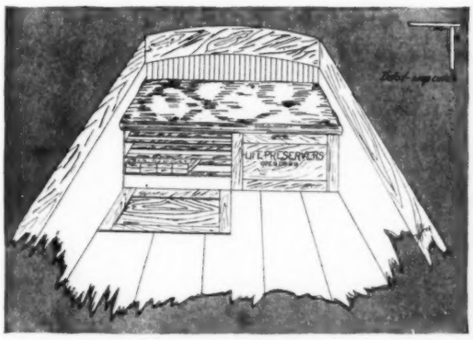
*THE PRIZE CONTEST—Answers to the Third Question in the August Issue.*

## Stored on Shelves.

*(Prize Won—Credit with the Monitor Boat & Engine Company.)*

LIFE PRESERVERS as required by the government, one for each passenger aboard, generally present a pretty knotty problem to the medium-sized cruiser owner before he gets them "stored." They are either put in some out-of-the-way place, or piled in the cockpit, where they fall down every time a steamboat passes. They are necessary in an emergency, but are seldom used except when the crew takes a swim—all but one and he uses a preserver. At other times they are forgotten or cursed, depending on where they are put.

Nearly all cruisers have stationary seats of some description in the cockpit. Why not utilize the space under these seats to "stow" the life preservers. They will always be handy in an emergency and can be easily



**Mr. Moores suggests keeping the life preservers on shelves built in under the after cockpit seat.**

protected from the weather and ventilated to prevent the canvas rotting.

The space under the after seat will generally accommodate a dozen, and two small seats could easily be built to accommodate another dozen. For this purpose the seats should be of one wide board if possible. If in an old boat, make the seat waterproof by canvasing or calking and painting. Under the seats build racks of light wood (about ½" x 1½") to keep the preservers separated, but so that no appreciable amount of shifting will occur. It is not imperative that the racks be built, but the life preservers will last much longer.

A door or lid hung to swing down and held closed by a snap catch will keep out rain and spray. Provided with a knob or pull of ample size to be easily grasped, no trouble from the door sticking will be experienced should the unlooked-for happen. Label each door, *Life Preservers, Open Down.*

W. B. Moores, Newburgh, N. Y.

## Have Them Accessible.

THERE is no more commonly neglected item of motor boat equipment than the life preserver. Because of its bulk, perhaps; or, more likely, because the chances of its being needed seem remote, it is usually either stowed in the bottom of some out-of-the-way locker where it may be reached as quickly or as easily as a nail in the gasoline tank; or it is left out entirely in favor of cushions, etc., which conform with the law. To go to the opposite extreme is less common, but is sometimes found, and is as bad an error of commonsense, almost, as the other. A tiny sixteen-foot open boat with a capacity of perhaps six people would have its capacity increased and its safety undiminished if the half carload or so of life preservers, piled mountain-high in the cockpit behind the engine were reduced. Some enthusiasts find other uses for the life preserver than that intended by its manufacturer. It is sometimes used as a pillow; more frequently a number of them serve as chair or table. George Fitch, MoToR BoatinG's chief humorist, recommends hanging one around the engine when starting.

Occasionally one meets a motor boat correctly equipped as to life preservers and other items. The pleasure in so doing is no less keen because of its rarity. The small boat without standing roof has corked cushions, which, if properly made, fulfill every legal requirement unless the owner carries passengers for hire, and are a sufficient precaution for ordinary trips. It is better, however, to supplement them with a ring buoy, always kept in the same place, and that place always accessible (the back of the engine box is a good one). This can be thrown farther and got at quicker than a long cushion which people are sitting on. A ring buoy should not be fastened on with staples, or even seized to a screw eye; it should be simply hung on a deep cup-hook.

The same arrangement may be used also in the small raised-deck cruiser, the ring buoy being conveniently hung up against the bulkhead which forms the after end of the cabin. But cushions are at best only a makeshift and if the boat can accommodate without too severe a trespass upon room a few regulation life preservers, the landlubber guests and even the hardy swimmer, who would be nearly as helpless in the rough water and great distances from shore that disasters usually occur, would have more confidence and more safety in extended offshore cruising, and would, therefore, reap its delights and joys in greater degree. With a substantial standing roof over the cockpit, the life preservers can be snugly stored beneath it, held there by light wooden battens which can be pulled off with ease in an emergency. Thus they are readily accessible and, at the same time, well protected from the weather, and the height of the roof should be sufficient to carry them without forcing the people to stoop. If the cruiser is not provided with a standing roof, or if it has one which is not heavy enough to be used in this way, the life preservers should be kept in a special locker reserved especially for them and situated in the cockpit. This locker should be readily accessible, with hinged cover, and should be watertight, for life preservers should be kept dry in order that the duck and sewing will not rot.

On the larger yachts two ring buoys bearing the yacht's name and hailing port are usually hung from the rail of the main deck forward, one on either side. These should be supplemented by a third ring buoy hung within easy reach of the steersman, and a fourth from some position aft where it may be reached handily. Some regulation life preservers should always be kept on deck, in addition to the regular supply which are distributed below, under the berths of each stateroom and the seats of the main cabin. These may be concealed and yet rendered accessible by stowage in a locker which forms a seat, and has a lift-up cover.

Many large yachts carry a patent self-lighting buoy, which is invaluable in recovering a man overboard at night by automatically burning a light on contact with the water, and thus locating the position.

All tenders should be equipped with life preservers, fastened by a light seizing to the underside of the seats.

B. B., New York City.

## Kept in a Special Box.

JUST where to store the life preservers on a medium-size cruiser has often proved quite a problem, mostly because no place was provided in the layout when the boat was designed. The best place to carry them will depend very much on how the boat is arranged.

On some boats the space under the broad seat across the stern could be used. The panel across front of seat should be hinged at lower edge so as to be quickly dropped. A light floor of slats would keep the lower ones from becoming damp, as they are apt to if laid directly on the cockpit floor.

If this space is to be used for other purposes a sort of box could be made to hold them. For one dozen standard cork life preservers it need be only about 2′ x 2′ x 2′ inside measure. The top could be made to lift off so the cona-along the cockpit sides. The seats in most cases are of the hinged-cover type, affording good storage space beneath. Here, then, is just the place for the bulk of life preserver storage, sheltered from the weather, yet readily accessible at all times. If the stern seat locker is to be used it would be a good plan to set in a removable backboard at the extreme stern end as a guard to prevent interference with the steering gear, as Fig. 1 in sketch. The board can be easily held against cleats nailed to the underside of the after deck and the locker flooring, by small latches fastened (by a long screw) to the cleats and turned crosswise of a slot cut in the backboard, as Fig. 2. If so desired, the front paneling could also easily be sawed and two small doors constructed, as Fig. 3, but this is not really necessary, especially where the cover lifts back as one piece.

Lay the life preservers flat and pile neatly one above the other. From time to time, on sunny days, leave open the door in order to sweeten the interior and contents of the locker. Tack a placard, with *Life Preservers* printed upon it in some conspicuous place outside the locker. Take three life preservers of the ring-buoy type (with line) and lash lightly to the railing or deck for emergencies, two about amidships, one on each side, and one at the stern. These should first be well coated with good paint.

C. E. Bradley, Fall River, Mass.

tents can be quickly taken out. It might also be a good plan to paint the words, *Life Preservers*, on the box near where it opens, so a stranger would know what it contained.

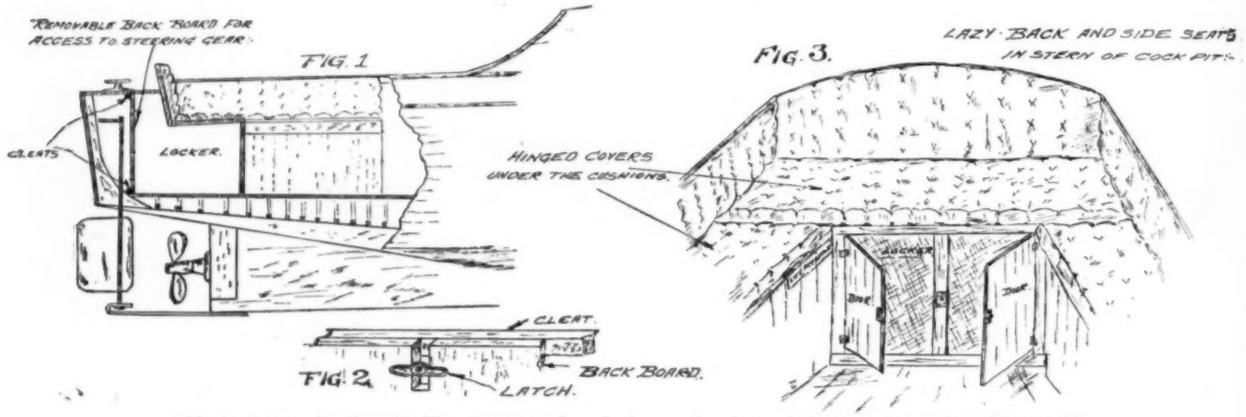
A good place to carry the box would be just aft of the box which is used to cover the engine on many cruisers. It would be about the same width and perhaps a trifle higher. Hooks should be provided for holding the box in place and to permit its being moved when necessary. The top will answer nicely for a table and a couple of narrow leaves could be hinged to increase the size somewhat. If the box is built to harmonize with the finish of the cockpit, its appearance would not be objectionable.

In return for the small amount of floor space needed, about two feet each way, the life preservers are protected from the weather and rough usage and are out of the way.

C. H. Christie, Saginaw, Mich.

## Stored in the Cock-Pit.

OWING to a limited amount of storage space on the ordinary medium-sized cruiser it is difficult to decide just where to place such bulky necessities as life preservers. However, if one should look carefully in the cockpit of the various local craft of this type, he would find the greater part of them fitted with a lazy back seat at the stern and many with the seats continued part way




**Method of caring for the life preservers in a locker under the cockpit seat suggested by Mr. Bradley.**

# DEVICES AND STUNTS.

*[This new department is to be a regular feature of* MoToR BoatinG *in the future, and we ask our readers to send us photographs or sketches with descriptions (of no more than three or four hundred words) of unique devices for or improvements in their boats which they have made themselves or had made for them. We will pay $5.00 each for all items of this kind with the accompanying photographs or sketches which we use, and the more who send in material the better we shall like it, and the better the department will be.*—THE EDITOR.]

## Making the Dinghy Tow Straight.

*By E. W. Kendrick*

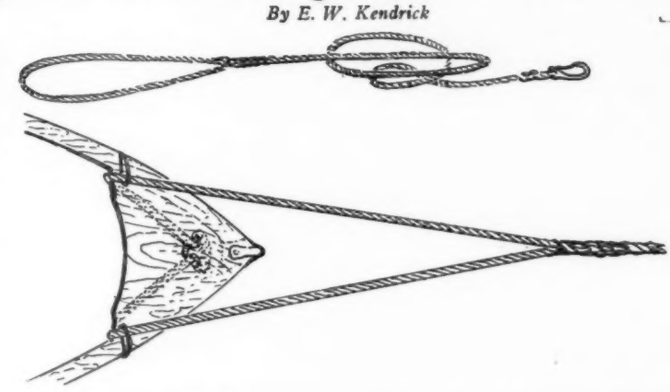
ONE of the most essential points in *dinkydom* is that the craft should tow lightly and easily and to do that it is of paramount importance that it should tow straight.

A dinghy that follows directly in your wake is a gem to be treasured and not to be compared with the ordinary, everyday, wayward craft at all. Least that's what you and I and all the rest of us say, and quietly but emphatically cuss the dink that doesn't; when we ought more often to be cussing ourselves. How can the poor little chap follow without proper guidance to check his erring ways. What he wants is a painter that will check each yaw from the start and even anticipate that.

For the trouble in most cases where the dinghy does not tow straight, rests not with the dink at all, but with the manner in which it is towed, and to tow a dinghy properly you must have the painter right.

Here is the "how to make" of the best dinghy painter I know.

Take about four fathom of 5/8 inch Manilla and splice an eye in the end four feet long. If you cannot splice make a bowline, but the splice looks better. Hitch this eye to your painter ring, arrange the eye as shown in the sketch and fix it there with either lacing or staples. Thus you will have provided the dinghy with a painter that acts as a bridle, always holding a restraining influence on the far side of the craft when the sea kicks the stern around.



**Simple arrangement of towing line to make the dinghy pull straight.**

Although it has nothing to do with towing it is nevertheless a mighty good idea and adds much to the value of a painter, to splice in at the other end, a snap hook. With it you can snap on to a boat in motion or a float when you could not get aboard or ashore to do it. It cuts a figure in the "speed problem" that is always worth while.

Figure out the correct length of the tow line so that the dinghy will ride on the down side of the boat's stern wave, so as to create as little pull as possible for every bit of pull means power lost.

## Hints About Marine Railways.

*By H. W. Loweree.*

IN A MAJORITY of cases marine railways are laid at a slight incline owing to the lay of the land, in order to get sufficient depth, and of course this makes much easier hauling out and where it runs in on the land it should be nearly level in order to facilitate the skidding off sidewise and compactly storing, as space is often limited.

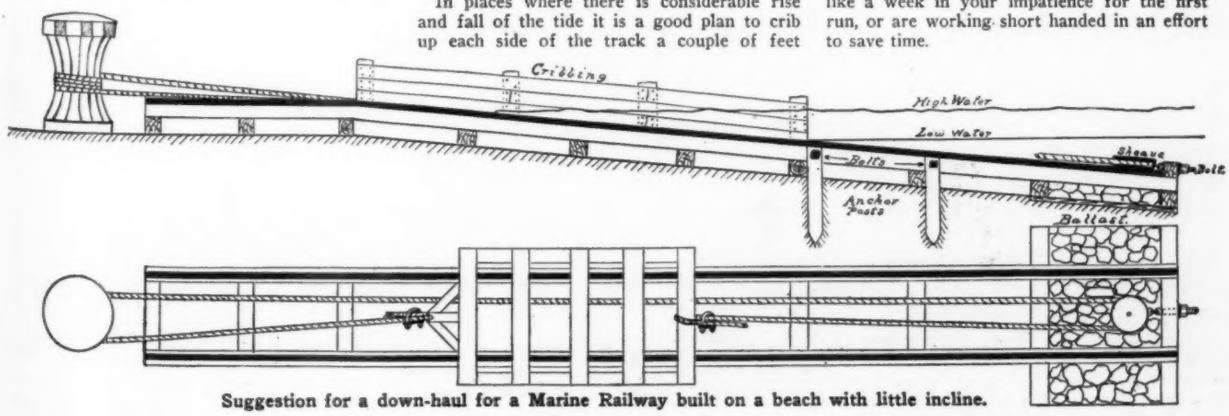
The car in this case will not run down by gravity and should be fitted with a down haul, which may consist of a large iron single block such as are used on hoisting derricks. Anchor this block securely to the bumper log or last tie piece, then fasten a wire cable to the lower end of the car and pass it through the sheave, then back between the rails to the drum of hoisting apparatus taking several turns and then to the upper end of car making an endless cable.

You can obtain long lengths of second hand elevator cable very cheaply from most any dealer in marine hardware.

In places where there is considerable rise and fall of the tide it is a good plan to crib up each side of the track a couple of feet high for some distance between high and low water mark to prevent the washing in of sand and mud.

Stout posts should be driven down and fastened to the bed timbers on each side to prevent the moving ice, during the winter from carrying your outfit away and thus causing you to do the work all over again in the spring.

These suggestions will be appreciated by those who have had to jack a heavy boat down by hand in the spring when every day seems like a week in your impatience for the first run, or are working short handed in an effort to save time.




**Suggestion for a down-haul for a Marine Railway built on a beach with little incline.**

# AMONG · THE · CLUBS

**Seaside Park Regatta.**

The racing began at 1:30 with Class A cruisers, which included those cabin cruisers under 40 feet. The next race was Class B cabin cruisers over 40 feet. The race at 2:30 was for displacement speed boats and at 3:30 for the hydroplanes; these latter competing for the Nathan Trophy, which is to be offered annually. The races were open to all clubs on the Jersey coast from Long Branch south.

The Class A was won by the Gry-

**Viking Trophy presented by J. H. Wallace of the New York Motor Boat Club to the Viking boat defeating the largest number of boats in 1913. The trophy has just been awarded to Geo. W. Hoertel's Francis H.**

phon of Seaside Park Yacht Club; owner, Ormond Rambo, Philadelphia. Second, by the Hobo, of Atlantic City Yacht Club.

The Class B was won by the Shearwater; owner, J. Brakely, of Bay Head, N. J. Second, by Bella G., Ocean Gate, N. J.; owner. Theodore Siefert.

The Displacement was won by the Arrow; owner, L. T. Wissmach, Toms River. Second, the Jigs; owner, Murray Earl, of Mantaloking. Third, the Venice, of Atlantic City; owner, George F. Jolly.

In the Hydroplane Class, as is not unusual, some accidents occurred. Chelsea II, the new boat belonging to Mr. Walter T. Reed, vice-commodore of the Atlantic City Yacht Club, was entered, but broke two cylinders the night before the race and was withdrawn.

The Tech, Jr., won the race with ease against the Chelsea Special; and the fast little A. F. B. was unfortunate enough to break a shaft in a tuning-up just preliminary to the race.

All races were started on the handicap, enabling the viewers to enjoy seeing the first boat over the line win, and not wait for a mass of figuring to determine which the winning boat might be.

* * *

**Lowell Regatta.**

Three snappy events formed the fall program which was run off by the Lowell Motor Boat Club, of that city, in Massachusetts, on Labor Day, Monday, September 1st; the course was on the Merrimack River.

The Bang-and-Go-Back event, which proved an easy victory for J. H. Walker's Asa, was the most interesting number. Second home was Greyhound, piloted by Albert Hamel, while third honors went to Colonel Rice's Iceboat.

Emily S. walked away with the handicap race which went for six miles under the guidance of W. H. Morse; Asa was second and Marjorie, owned by A. Hill, third. The final number — the ten-mile free-for-all — went to Doris, with the owner, F. W. Holmes, at the wheel. Nemo easily took second place, while J. Richardson's Dixie brought up the tail end.

The course was lined with spectators from start to finish, and there was no lack of enthusiasm displayed at the final regatta of the club for the present season.

* * *

**Hampton Roads Club House Burned.**

To overcharged electric wires is attributed the recent destruction by fire of the Hampton Roads Yacht Club's handsome and commodious club house, which occupied a site at the extreme end of Willoughby Spit, facing Chesapeake Bay. Nothing remains of the building but the chimneys. The loss is estimated at $15,000 with about $9,000 insurance.

**"Shearwater," winner of the class B event at the Seaside Park Regatta.**

R. P. Waller, commodore of the club, said recently that steps toward rebuilding as early as possible will be taken at once. Several members of the club were in conference with Commodore Waller last week in reference to this matter.

The fire, which originated in the roof of the building, had gotten well under way before employees on the first floor were aware of it.

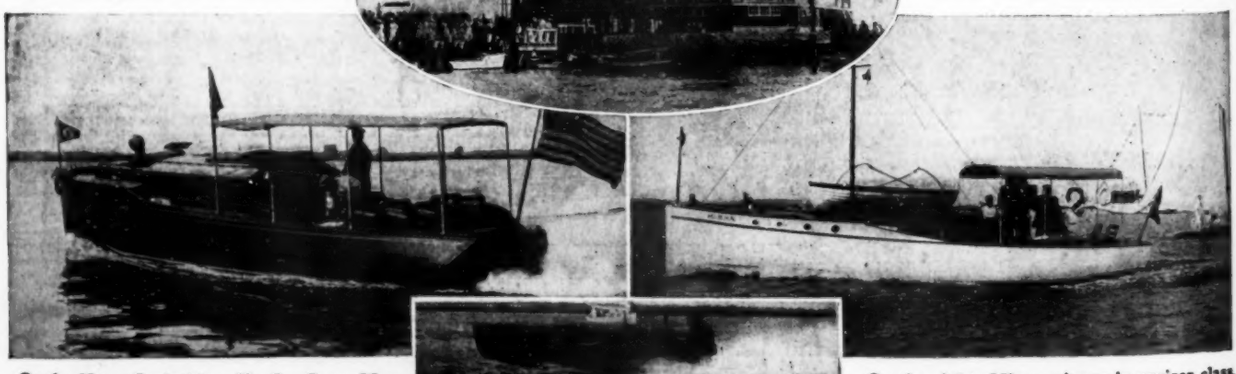
* * *

**"Willis T" Sold.**

The 60 ft. power yacht Willis T.

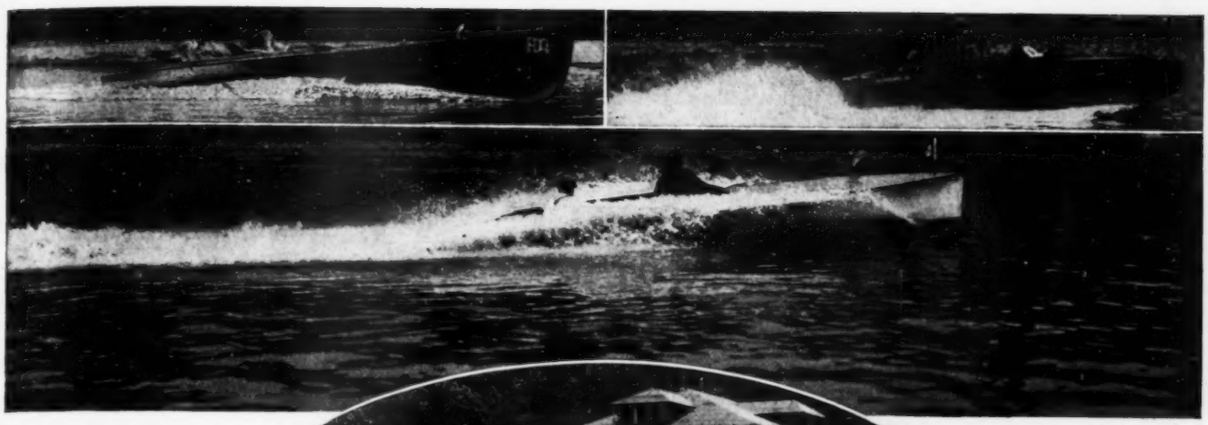
**South Jersey Associa-**

**tion Finals at Cape May.**



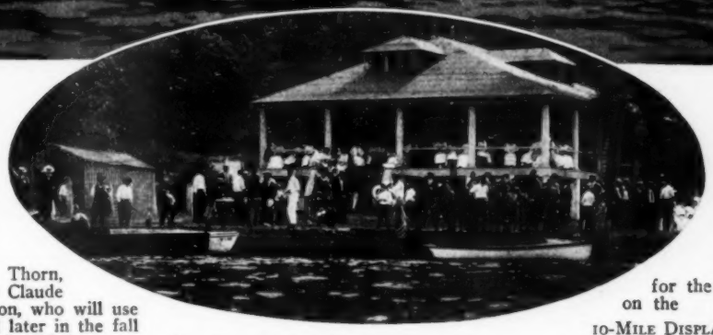
**Oval: New Corinthian Y. C., Cape May. On left: Daneva II, winning cruiser race.**

**On the right: Mirna winner in cruiser class. Below: Tech, Jr., winning hydroplane race.**



## The Flat Rock Club Regatta.

**The upper pictures show respectively P. D. Q., winner of the Stewart trophy in the semi-speed class and Alparnel III, winner of the 16 nautical mile hydroplane race. The center picture shows Xqqme, winner of the 16 nautical mile displacement boat race. The oval shows the dock and club house of the Flat Rock Motor Boat Club at Shawmont, Pa.**



has been sold by John H. Thorn, Yonkers Corinthian Y. C. to Claude V. Pallistere, of Port Jefferson, who will use the yacht on the Sound until later in the fall when he intends to cruise south with her.

* * *

**Blackton Trophy.**

Commodore Blackton, of the Atlantic Yacht Club, has presented to the Associated Yacht and Power Boat Clubs of America, a handsome cup to be raced for at their Chicago regatta. The trophy may be competed for by all comers and is to become the absolute property of the first boat making a mile in one minute under Admiralty rules.

* * *

**Western Regatta.**

A motor boat race over a course of 24 miles was a big feature of the recent three-day regatta of the Los Angeles Motor Boat Club and the Sunset Yacht Club. Fellows II carried off the honors on the first day, finishing over 200 yards ahead of Pope-Hartford, with the Bull Pup third, and Whathell fourth. On the second day Bull Pup was the winner, with Whathell second, Fellows II having a break down in the second lap and being towed into port.

* * *

**Gold Challenge Cup Race.**

Lake George motor boatmen are already planning for the staging of the Gold Challenge Cup races next year. T. E. Krumbholz is now possessor of the handsome trophy which Count Mankowski brought to Lake George with his International racer, Ankle Deep. The Lake is ideal for racing, the surface of the water being absolutely free from driftwood.

* * *

**Nantasket Carnival.**

One of the interesting features of the carnival at Nantasket, Mass., was a motor boat race on the ocean side of the beach. In the 5 h.p. class, Myriad and Falcon were tied, dividing the first and second prizes amounting to $40, with Paragon third. In the 3 h.p. class, Terese carried off the honors with Madeline second and Clara third. Nicknack II was victorious in the H.O.D. knockabout class and Wa Wa second.

* * *

**Lowell Program.**

Three races added interest to the program run off recently by the Lowell Motor Boat Club on the Merrimack River. The Bang-and-Go-Back race was a victory for Asa, Greyhound and Iceboat coming in second and third respectively. In the 6-mile handicap Emily S was the winner with Asa second and Marjorie third. The 10-mile free-for-all was won by Dorris.

**Hamilton Centennial Races.**

The results of the motor boat races recently held in connection with the Hamilton Centennial Exposition are as follows:

It should be noted that Marco, in the 25-mile Great Lakes Championship Race, took one hour, 9 minutes and 15 seconds, while in the 20-mile handicap race she did the 20 miles in 35 minutes and 56 seconds. This was no doubt due to the fact that the fast boats dropped out of the 25-mile race after the first lap, and, accordingly, Marco was enabled to save herself for the 20-mile race which followed on the program.

**Blackton Mile-a-Minute Trophy.**

10-MILE DISPLACEMENT MOTOR BOAT RACE

| *No.* | *Name* | *Start* | *Finish* |
|---|---|---|---|
| 1 | Marco | 2-45 | 3-08-32 |
| 2 | Gadfly III | 2-45 | 3-13-20 |
| 3 | Alice-Mary | 2-45 | 3-15-52 |
| 4 | Brussels | 2-45 | 3-21-51 |
| 5 | Philomel | 2-45 | 3-25-36 |
| 6 | Leading Lady | 2-45 | 3-26-15 |

5-MILE HANDICAP FOR 1 AND 2-CYLINDER ENGINES

| *No.* | *Name* | *Start* | *Finish* |
|---|---|---|---|
| 1 | Ethel K. | 4-26-19 | 5-03-32 |
| 2 | Isabel | 4-29-33 | 5-03-43 |
| 3 | Kitty | 4-26-38 | 5-04-31 |
| 4 | Kenno | 4-15-00 | 5-05-59 |
| 5 | Marino | 4-22-46 | 5-07-59 |
| | Pearl | 4-26-38 | *5-03-09 |
| | Krugg | 4-19-51 | 5-02-15 |

*Disqualified.

15-MILE FREE-FOR-ALL

| *No.* | *Name* | *Start* | *Finish* | *Lapsed Time* |
|---|---|---|---|---|
| 1 | Heloise | 3-00 | 3-28-49 | 28-49 |
| 2 | Gadfly III | 3-00 | 3-34-19 | 34-19 |
| 3 | Marco | 3-00 | 3-34-48 | 34-28 |

BANG-AND-GO-BACK

| *No.* | *Name* | *Start* | *Finish* |
|---|---|---|---|
| 1 | Marco | 5-30 | 5-37-53 |
| 2 | Reynolds | 5-30 | 5-38-11 |
| 3 | Gadfly III | 5-30 | 5-38-21 |

20-MILE HANDICAP INTERNATIONAL MOTOR BOAT RACE

| *No.* | *Name* | *Start* | *Finish* |
|---|---|---|---|
| 1 | Heloise | 5-55-53 | 6-23-35 |
| 2 | Marco | 5-48-46 | 6-24-42 |
| 3 | S. H. M. 4 | 5-26-04 | 6-35-31 |
| 4 | Philomel | 5-15-00 | 6-35-36 |
| 5 | Wannetta | 5-17-24 | 6-35-53 |

25-MILE INTERNATIONAL GREAT LAKES CHAMPIONSHIP

| *No.* | *Name* | *Start* | *Finish* |
|---|---|---|---|
| 1 | Marco | 3-30 | 4-39-01 |
| 2 | Alice-Mary | 3-30 | 4-50-38 |
| | Heloise | 3-30 | Disabled |

**"Little Joker," winner of the free-for-all race at the annual regatta of the Hudson River Yacht Racing Association at Croton Point. The boat is the property of H. S. Ford, of Nyack, N. Y., and is powered with an 8-cylinder, 180 h. p. Sterling engine.**

**Western Trophy.**

A one cylinder motor boat race will be chugged under the auspices of the Western Rowing Club of St. Louis, on October 5th. The course will be ten miles down the Mississippi River and only boats forcing one-cylinder will be permitted to compete. A $100 loving cup and many other suitable prizes will be awarded to the winners. At the present time over 15 entries are in.

# Summary of Important Regattas.

## The Chicago, the Mississippi Valley Power Boat Association, the Motor Boat Club of Buffalo, and the Hudson River Yacht Racing Association Events.

## Official Results, Chicago, Ill., Aug. 18-23, 1913.

### 20-Foot Class—12 Miles—August 18, 1913. 6 Laps of 2 Miles Each.

**First Heat.**

| Boat. | Owner. | Length. | Motor. | Time. |
|---|---|---|---|---|
| Baby Reliance | J. S. Blackton | 20 | 180 Sterling | 20-52 |
| Kitty Hawk, Jr. | H. H. Timken | 20 | 180 Van Blerck | 21-33 |

**Second Heat.**

| | | | | |
|---|---|---|---|---|
| Hazel II | A. E. Smith | 20 | 2-100 Curtiss | 21-18 |

**Third Heat.**

| | | | | |
|---|---|---|---|---|
| Oregon Kid | M. Smith | 20 | 125 Van Blerck | 17-19 |
| Baby Speed Demon | J. S. Blackton | 20 | 180 Sterling | 18-08 |

**Final Heat.**

| | | | | |
|---|---|---|---|---|
| Baby Speed Demon | J. S. Blackton | 20 | 180 Sterling | 17-51 |
| Oregon Kid | M. Smith | 20 | 125 Van Blerck | 17-56 |
| Hazel II | A. E. Smith | 20 | 2-100 Curtiss | 19-10 |

1st Prize won by Baby Speed Demon. 2nd Prize won by Oregon Kid.

### 26-Foot Class—12 Miles—August 19, 1913. 6 Laps of 2 Miles Each.

**First Heat.**

| Boat. | Owner. | Length. | Motor. | Time. |
|---|---|---|---|---|
| Oregon Kid | M. Smith | 20 | 135 Van Blerck | 19-16 |
| Kitty Hawk, Jr. | H. H. Timken | 20 | 180 Van Blerck | 19-30 |
| Hydro Bullet | E. H. Deakin | 20 | 180 Van Blerck | D. N. F. |

**Second Heat.**

| | | | | |
|---|---|---|---|---|
| Kitty Hawk V | H. H. Timken | 26 | 300 Van Blerck | 18-13 |
| Baby Speed Demon | J. S. Blackton | 20 | 180 Sterling | 18-41 |

**Third Heat.**

| | | | | |
|---|---|---|---|---|
| Van Blerck | C. V. Cooper | 26 | 300 Van Blerck | 18-13 |

**Final Heat.**

| | | | | |
|---|---|---|---|---|
| Baby Speed Demon | J. S. Blackton | 20 | 180 Sterling | 17-32 |
| Van Blerck | C. V. Cooper | 26 | 180 Van Blerck | 20-54 |
| Oregon Kid | M. Smith | 20 | 125 Van Blerck | D. N. F. |
| Kitty Hawk V | H. H. Timken | 26 | 300 Van Blerck | D. N. F. |

1st Price won by Baby Speed Demon. 2nd Prize won by Van Blerck.

### 32-Foot Class—12 Miles—Aug. 20, 1913. 6 Laps of 2 Miles Each.

**First Heat.**

| Boat. | Owner. | Length. | Motor. | Time. |
|---|---|---|---|---|
| Baby Reliance | J. S. Blackton | 20 | 180 Sterling | 17-47 |
| Hydro Bullet | E. H. Deakin | 26 | 180 Van Blerck | 18-07 |
| Kitty Hawk, Jr. | H. H. Timken | 20 | 180 Van Blerck | 19-17 |

**Second Heat.**

| | | | | |
|---|---|---|---|---|
| Van Blerck | C. V. Cooper | 26 | 180 Van Blerck | 20-59 |
| Barnacle | A. Weckler | 20 | 180 Van Blerck | D. N. F. |

**Third Heat.**

| | | | | |
|---|---|---|---|---|
| Oregon Kid | M. Smith | 20 | 125 Van Blerck | 17-22 |
| Kitty Hawk V | H. H. Timken | 26 | 300 Van Blerck | 17-44 |
| Sand Fly | C. A. Williams | 20 | 125 Emerson | D. N. F. |

**Final Heat.**

| | | | | |
|---|---|---|---|---|
| Oregon Kid | M. Smith | 20 | 125 Van Blerck | 18-34 |
| Van Blerck | C. V. Cooper | 26 | 180 Van Blerck | 23-00 |
| Hydro Bullet | E. H. Deakin | 26 | 180 Van Blerck | 25-00 |
| Baby Reliance | J. S. Blackton | 20 | 180 Sterling | D. N. F. |

1st Prize won by Oregon Kid. 2nd Prize won by Van Blerck.

### Wrigley Trophy Race.

| Boat. | Owner. | Time Preliminary Race Aug. 21, 1913. 14 Miles. | Time Final Race Aug. 23, 1913. 30 Miles. |
|---|---|---|---|
| Oregon Kid | M. Smith | 19-43 | D. N. F. |
| Disturber III | J. A. Pugh | 19-46 | 42-47 |
| Kitty Hawk V | H. H. Timken | 20-40 | D. N. F. |
| Baby Reliance | J. S. Blackton | 20-52 | 43-02 |
| Barnacle | A. Weckler | 21-04 | D. N. S. |
| Hazel II | A. E. Smith | 21-40 | D. N. S. |
| Kitty Hawk, Jr. | H. H. Timken | 21-58 | D. N. S. |

Trophy won by Disturber III, powered with two, 12-cylinder, 300-H. P. Van Blerck motors. Baby Reliance second.

## Official Results, Mississippi Valley Power Boat Association Races at Keokuk, Iowa, August 26, 27, 28 and 29, 1913.

### Webb Trophy Race—20 Miles, Free-for-All, 8 Laps of 2½ Miles Each. August 29th.

| Boat | Owner | 1st lap | 2nd lap | 3rd lap | 4th lap | 5th lap | 6th lap | 7th lap | 8th lap |
|---|---|---|---|---|---|---|---|---|---|
| Oregon Kid | S. F. Brock | 3-18 | 6-39 | 9-04 | 11-28 | 14-56 | 18-34½ | 22-32 | 26-18 |
| Hydro Bullet | Earl H. Deakin | 3-30 | 7-00 | 9-47 | 13-00 | 36-54 | No finish time | | |
| Barnacle | Adam Weckler | 3-45 | 7-12 | 9-54 | 12-45½ | 23-22 | No finish time | | |
| Baby Reliance | J. S. Blackton | 3-41 | 7-02 | 9-29 | 11-54½ | 15-24 | Withdrawn | | |
| Tango | W. J. Warren | Magneto trouble, unable to start. | | | | | | | |

### Class E—First Heat, 20 Miles, August 27th.

| Boat | Owner | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th |
|---|---|---|---|---|---|---|---|---|---|
| Oregon Kid | S. F. Brock | 3-12 | 6-26 | 9-40 | 12-59 | 16-22 | 19-47 | 23-15 | 26-50 |
| Baby Reliance | J. S. Blackton | 3-34 | 7-02 | 10-30 | 13-59 | 17-28 | 21-01 | 24-37 | 28-18 |
| Van Blerck | S. F. Brock | 3-39 | 7-21 | 11-02 | 14-39 | 18-16 | 21-55 | 25-32 | 29-10 |
| Teaser IV | Evers & Moritz | 4-50 | 9-36 | 14-23 | 19-11 | 23-58 | .... | .... | 38-28½ |
| Hydro Bullet | E. H. Deakin | 3-43 | 7-16 | Out | | | | | |

### Second Heat, August 29th, 4 Laps, 10 Miles.

| Boat | Owner | 1st | 2nd | 3rd | 4th |
|---|---|---|---|---|---|
| Oregon Kid | S. F. Brock | 3-33 | 7-08 | 11-02 | 15-07⅘ |
| Baby Reliance | J. S. Blackton | 3-58 | 8-03 | 11-52 | 15-42⅗ |
| Hydro Bullet | E. H. Deakin | 3-50 | 7-40 | 11-39 | 16-01 |
| Van Blerck | S. F. Brock | (Sunk on first round) | | | |

### Class D—First Heat, 15 Miles, 6 Laps, August 27th.

| Boat | Owner | 1st | 2nd | 3rd | 4th | 5th | 6th |
|---|---|---|---|---|---|---|---|
| Oregon Kid | S. F. Brock | 4-01 | 7-49 | 11-48 | 15-55 | 19-46 | 24-19⅘ |
| Teaser IV | Evers & Moritz | 4-53 | 9-42 | 14-32 | 19-22 | 24-20 | 29-08 |
| Little Leading Lady | W. P. Cleveland | 5-16 | 10-18 | 15-17 | 20-18 | 25-10 | 30-03 |
| Gray Hound | E. L. Wingarten | 6-48 | 13-30 | 20-28 | 28-35 | Withdrawn | |
| F. E. S. 2nd | Geo. Schreiner | 5-25 | Out | | | | |

### Second Heat, 5 Miles, 2 rounds, August 29th.

| Boat | Owner | 1st | 2nd |
|---|---|---|---|
| Oregon Kid | S. F. Brock | 4-35 | 9-14½ |
| Teaser IV. | Evers & Moritz | 4-56 | 9-46 |
| Little Leading Lady | W. P. Cleveland | 5-20 | 10-33½ |
| Gray Hound | E. L. Wingarten | 6-44½ | 13-22⅘ |

### Class C—First Heat, 15 Miles, 6 rounds, August 26th.

| Boat | Owner | Finish Time |
|---|---|---|
| Little Leading Lady | W. P. Cleveland | 32-04⅗ |
| Scary William | A. J. Ruddick | 39-10 |
| Ugly Duckling | Harry Godley | 42-37 |
| P. D. Q. III | A. C. Strong | Broke down in 4th |
| Ethel IV | Ethel Salisbury | Withdrawn in 5th |
| Cub | Art Salzmann | 50-12 |

### Second Heat, 1 Round, 2½ Miles, August 29th.

| Boat | Owner | Time |
|---|---|---|
| Little Leading Lady | W. P. Cleveland | 6-25 |
| P. D. Q. III | A. C. Strong | 7-15 |
| Ugly Duckling | Harry Godley | 7-27 |
| Scary William | A. J. Ruddick | Withdrawn |

### Third Heat, 2½ Miles, August 29th.

| Boat | Owner | Time |
|---|---|---|
| P. D. Q. III | A. C. Strong | 11-00 |

### Class B—First Heat, 10 Miles, 4 Laps, August 26th.

| Boat | Owner | Time |
|---|---|---|
| P. D. Q. III | A. C. Strong | 24-54 |
| Phantom | A. L. Osborn | 24-56 |
| Gray Hound | E. L. Wingarten | 25-14 |
| K. & L. | K. & L. Motor Boat Co. | 26-56 |

### Second Heat, 10 Miles, 4 Laps, August 27th.

| Boat | Owner | 1st | 2nd | 3rd | 4th |
|---|---|---|---|---|---|
| Phantom | A. L. Osborn | 6-16 | 12-28 | 18-37 | 24-55⅕ |
| P. D. Q. III | A. C. Strong | 6-11 | 12-25 | 18-36 | 24-55⅗ |
| Scary William | A. J. Ruddick | 6-30 | 12-48 | 19-12 | 25-31⅘ |
| Gray Hound | E. L. Wingarten | 6-40 | 13-13 | 19-49 | 26-01 |
| Ugly Duckling | Harry Godley | 7-13 | 14-30 | 21-46 | Fifth |
| St. Elmo II | Vantlant & Taylor | 7-25 | 14-40 | 22-00 | Sixth |
| K. & L. | K. & L. Motor Boat Co | 7-17 | Withdrawn | | |

### Third Heat, 5 Miles, 2 rounds, August 29th.

| Boat | Owner | 1st | 2nd |
|---|---|---|---|
| P. D. Q. III | A. C. Strong | 6-24 | 12-41 |
| Scary William | A. J. Ruddick | 6-29 | 12-56⅗ |
| Gray Hound | E. L. Wingarten | 7-26 | 14-53 |
| Ugly Duckling | Harry Godley | 7-38 | 15-05½ |
| Phantom | A. L. Osborn | 6-18 | Sunk |

### Class A—First Heat, 5 Miles, 2 Laps, August 26th.

| Boat | Owner | Time |
|---|---|---|
| Phantom | A. L. Osborn | 12-20 |
| P. D. Q. III | A. C. Strong | 12-40 |
| Scary William | A. J. Ruddick | 13-05 |
| Ugly Duckling | Harry Godley | 14-10 |

### Second Heat, 5 Miles, 2 Rounds, August 27th.

| Boat | Owner | 1st | 2nd |
|---|---|---|---|
| P. D. Q. III | A. C. Strong | 6-15 | 12-23⅗ |
| Scary William | A. J. Ruddick | 6-24 | 12-46 |
| Ugly Duckling | H. Godley | 7-24 | 14-39 |

### Third Heat, 5 Miles, 2 Rounds, August 29th.

| Boat | Owner | 1st | 2nd |
|---|---|---|---|
| P. D. Q. III | A. C. Strong | 6-09 | 12-19½ |
| Phantom | A. L. Osborn | 6-12 | 12-21½ |
| Scary William | A. J. Ruddick | 6-26 | 12-47⅗ |

## Official Results of the Race Meet of Motor Boat Club of Buffalo.

### Chamber of Commerce Trophy, September 4, 1913. 26.3 Statute Miles.

| Boat | Owner. | Length. | Motor. | Time. |
|---|---|---|---|---|
| Baby Speed Demon | J. S. Blackton | 20 | 180 Sterling | 39-07 |
| Haida Papoose | M. Fleischman | 20 | 180 Sterling | 41-17 |
| Baby Reliance | J. S. Blackton | 20 | 180 Sterling | 41-43 |
| Mitt III | Hayden & Vars | 20 | 180 Sterling | 45-21 |
| P. D. Q. III | A. G. Miles | 20 | 180 Sterling | 56-37 |
| Hydro Bullet | E. Deakin | 26 | 180 Van Blerck | 58-51 |
| Oregon Kid | S. F. Brock | 20 | 125 Van Blerck | D. N. F. |
| Kitty Hawk, Jr. | H. H. Timken | 20 | 180 Van Blerck | D. N. F. |
| Kitty Hawk V | H. H. Timken | 26 | 300 Van Blerck | D. N. F. |

1st Prize won by Baby Speed Demon. 2nd Prize won by Haida Papoose.
Best speed for race 40.4 miles per hour.

### E. R. Thomas Trophy, September 5, 1913. 33.6 Miles.

| | | | | |
|---|---|---|---|---|
| Baby Reliance | J. S. Blackton | 20 | 180 Sterling | 46-43 |
| Haida Papoose | M. Fleischman | 20 | 180 Sterling | 47-09 |
| Baby Speed Demon | J. S. Blackton | 20 | 180 Sterling | 47-56 |
| P. D. Q. III | A. G. Miles | 20 | 180 Sterling | 49-36 |
| Scat | F. R. Mabbett | 16 | Pierce Budd | 75-40 |
| Kitty Hawk, Jr. | H. H. Timken | 20 | 180 Van Blerck | D. N. F. |
| Peter Pan V | Jas. Simpson | 20 | 180 Van Blerck | D. N. F. |
| Hydro Bullet | E. H. Deakin | 26 | 180 Van Blerck | D. N. F. |

1st Prize won by Baby Reliance. 2nd Prize won by Haida Papoose.
3rd Prize won by Baby Speed Demon. Best speed for race 43.2 miles per hour.

### September 6, 1913. 36.0 Miles. J. Stuart Blackton Trophy.

| | | | | |
|---|---|---|---|---|
| Haida Papoose | M. Fleischman | 20 | 180 Sterling | 51-30 |
| Baby Speed Demon | J. S. Blackton | 20 | 180 Sterling | 51-37 |
| P. D. Q. III | A. G. Miles | 20 | 180 Sterling | 52-19 |
| Mitt III | Hayden & Vars | 20 | 180 Sterling | 56-10 |
| Baby Reliance | J. S. Blackton | 20 | 180 Sterling | D. N. F. |
| Kitty Hawk, Jr. | H. H. Timken | 20 | 180 Van Blerck | D. N. F. |

1st Prize won by Haida Papoose. 2nd Prize won by Baby Speed Demon.
3rd Prize won by P. D. Q. III. Best speed for race 42.0 miles per hour.

## Hudson River Yacht Racing Association.

### Winners, Ninth Annual Regatta, September 1, 1913.

### Off Croton Point on Hudson.

**A. P. B. A. Restricted Class. 10 Miles.**

Elapsed time

Cinderella 21.33

**Open Boats, Rating Under 40, 5 Miles.**

| | Rating | Elapsed Time | Allowance | Corrected Time |
|---|---|---|---|---|
| Bunk III | 37.44 | 30.01 | 11 sec. | 29.50 |

**Cabin Boats Rating Over 43.**

| | | | |
|---|---|---|---|
| Excelsior | 46.6 | 57-30 | 6-27 | 51-03 |

**Standing Roof and Canopy Top Boats, 5 Miles.**

| | | | | |
|---|---|---|---|---|
| Twig | 29.12 | 41-00 | 25-06 | 15-54 |

**Racing Boats, Rating 70 and Over, 20 Miles**

| | | | | |
|---|---|---|---|---|
| Cinderella | 81.05 | 39-08 | 9-05 | 30-03 |

**Open Boats, Rating 40 and Over, 10 Miles.**

| | | | | |
|---|---|---|---|---|
| Undine | 50.9 | 34-15 | 10-25 | 23-50 |

**Class B—Cabin Boats, Rating 43 and Under.**

| | | | | |
|---|---|---|---|---|
| Billie | 34.2 | 1-08-44 | 13-43 | 55-01 |

**Hudson Dinghies.**

Elapsed Time

Williams Kid 24-00

# From Motor Boating Readers

## A Department for the Exchange of Ideas and the Discussion of Questions of General Interest. Editorial Opinion on a Number of Questions Submitted by Readers of the Magazine.

*MoToR BoatinG's columns are open to its readers, not only for asking questions, but for placing before them other readers' ideas, results of experience, opinions, etc., that should be interesting or helpful to them; but the editor will not, of course, be responsible for any opinions expressed or statements made in such communications. The name and address of the writer must necessarily be given in every case to make an answer by mail possible (no anonymous contributions will be considered for publication), but names will be omitted in publishing the letters and answers where desired, in which case it is desirable that initials or other distinguishing signature be appended. Through the correspondence department, readers of the magazine may be of direct aid to one another in solving the problems of motor boating.*

## Several Queries.

*To the Editor* MoToR BoatinG, *Sir:*

I am not among your list of subscribers, but have bought MoToR BoatinG regularly for a number of years from the book stores. Would you kindly help me in the interests of good motor boating in the selection of a propeller wheel?

My boat is a 17 foot 3 inches x 4 foot 6 inches V bottom runabout, 3 feet deep at bow and 21 inches at stern, which I designed myself after plans by William H. Hand. The frames are of 1 inch oak sided 2½ inches, space 2 feet on centers, stem and keel of 2 inch oak, planking ⅜ inch cypress with seats for five people. The power plant will be 10 H. P. 2 cylinder engine and want it to turn up 900 to 1,000 R. P. M.

1. Would you consider this a light boat?
2. What size two-blade and three-blade wheels could I use? If you consider any other wheel more advisable please recommend it to me.
3. What speed could I expect?
4. What clearance should I allow between the bottom of hull and tip of propeller blades?

I have asked for the size on both two and three-blade wheels, because I understand that a three-blade wheel does not cause the vibration that the more speedy two-blade wheel does. I want a smooth running boat, as well as speedy.

Thanking you in advance for your kind attention to this matter.

F. K. W., Nashville, Tenn.

[While we should not consider this boat an exceptionally light one by any means, yet, on the other hand, we would not consider her a heavy boat. Her construction seems to correspond very well with average practice for this type of boat, except, perhaps, where the frames are spaced rather further apart than that ordinarily used in boats of this class.

For a two-bladed wheel we would recommend one of 16 inches in diameter by 18 inch pitch, and for a three-bladed one, we would recommend the same pitch, but having a diameter of only 14 inches. The two-bladed wheel is probably the fastest of the two, although, as you say, it will not make as smooth a running outfit as the three-bladed wheel should.

Although we cannot estimate the speed exactly, as we have not seen the boat or her design, nor have you given us the bore and stroke, etc., of the motor, yet we believe you can expect a speed of between 10 and 11 miles per hour.

The clearance between the bottom of the hull and the tip of the propeller blades is not an important factor. This may be anywhere from 1¼ inches to 3 or 4 inches and still get good results.]

## A. B. P. A. Racing Rules.

*To the Editor* MoToR BoatinG, *Sir:*

I have a launch which measures 34 feet 9 inches on water line. She is of the cruiser type and would like to know the lowest beam at water line, thwartship on mid-ship section which this boat must have in order to enter a race based on rules of the American Power Boat Association. If you are unable to answer this question kindly let me know where to communicate with the A. P. B. A. if possible. Please answer as soon as possible as I wish to enter a race at the end of the coming week. Also let me know, please, actual power of my engine according to ratings of Power Boat Association. Engine is two cylinder, four cycle, 5 inch bore and 7 inch stroke, revolutions about 400.

L. T. G., Baltimore, Md.

[In order to enter a race based on the rules of the American Power Boat Association, the beam on the waterline, for a boat of your length, must be at least 6 feet 10½ inches. There are no restrictions in regard to the area of the midship section. The horsepower of your motor, according to the ratings of the A.P.B.A. is 13.09.

Copies of the American Power Boat Association's Year Book covering all these points may be had from the Secretary, Morris M. Whitaker, Nyack, N. Y.]

## A Home-Made Timer.

*To the Editor* MoToR BoatinG, *Sir:*

We are sending you a photograph of a home-made timer used on a 4 H. P. 1906 Gray motor in northwestern Canada.

When the present owner of the engine purchased it, it was in five feet of water and had been for three months. Apparently the motor was ruined. It was taken apart, 50 miles from the nearest town. The piston had to be pried out with a crowbar. One ring was rusted solid and, after being soaked in kerosene a couple of days, came off in four pieces. The timer and lubricator had been stolen.

The new owner moved the bottom ring to the top of the piston, plugged the oil-feed hole with a wooden plug and replaced the stolen timer with one made from a piece of 6 inch wire nail, the vulcanite tip of a hot water bottle, two curtain hooks, some electrician's tape, telephone wire and two rubber bands.

The vulcanite was screwed into the timer casing and the rubber bands hooked around the casing so that the nail was pressed against the fibre.

The coil had been under the water with the engine. In spite of the make-shifts employed, the engine ran without a miss from one end of the week to the other. Lubrication was effected by pouring oil into the cylinder.

GRAY MOTOR COMPANY.

**Home made timer constructed for a Gray motor, which had been under water for considerable time.**

## Hot Igniter Shaft.

*To the Editor* MoToR BoatinG, *Sir:*

Being a subscriber of your paper, I would like a little information about my marine motor. It is a two cycle two cylinder M. & B., 4 inch bore, 3½ inch stroke, 6 H. P. at 500 R. P. M. In the forward cylinder after it has been run quite a while the end of the ignition shaft gets so hot that it burns the steel chips off, where it comes in contact with the spark plug. The motor runs all right and appears to be as cool as usual or as it always has been. The motor after the ignition shaft is hot will keep on going after the switch is shut off. Could you suggest any remedy for the trouble?

L. W. R., Portland, Conn.

[We believe that it is a common occurrence with this sort of motor and one which cannot be rectified where the jacket is not carried up very close to the shaft bushing. As you say it does not affect the running of your motor, we would not advise you to worry about it. And the fact that engine continues to run after the electric current has been shut off is not a serious fault, as it may always be stopped at once by opening the pet-cock.

However, we might suggest that you clean your cylinders out by adding a pint or so of denatured alcohol to the cylinders above the piston and allowing it to stand over night, and then drawing the alcohol off in the morning. This will dissolve all the excess carbon in the top of your cylinders, and probably make the motor run much smoother.]

## Anti-Fouling Composition.

*To the Editor* MoToR BoatinG, *Sir:*

Will you kindly give me formulæ for home-made paints for the protection of boats' bottoms from borers and fouling. The Bureau has recently been doing work on this problem, and wishes to give proper credit for previous work along this line.

L. R., Beaufort, N. C.

[In regard to formulæ for home-made paints for the protection of boats' bottoms against fouling, the only one which we know of which is used with any degree of satisfaction in the North is made as follows:

Two pounds of copper bronze, such as is used in the printer's trade is dissolved in a gallon of varnish. Opinions seem to differ as to the best quality of varnish, some users claiming that the best results are obtained by using the cheapest sealing varnish which retails in the neighborhood of 50 cents a gallon, while other users claim that only the best spar varnish should be used.

We have seen examples where both grades worked out very well indeed. One thing is imperative for the application of this compound and that is that it be laid upon the bare wood or upon other copper paint, and not upon a lead or zinc mixture. If the latter is done, a mixture of copper and varnish seems to last only a few weeks. Two coats are always required, and we have seen many examples where an application of this kind made at the beginning of the season came out of the water at the end of the season absolutely free from growths of any kind.]

## Two or Three Port?

*To the Editor* MoToR BoatinG, *Sir:*

Once again may I appeal to you through the columns of MoToR BoatinG for some valuable advice. I have a 26 foot converted cabin cat boat and contemplate installing a new five H. P. heavy duty make and break engine and will ask you if a two-port or three-port engine would produce the best results, and also is a 1 inch carburetor too small or would 1¼ inch, or in fact 1½ inch carburetor produce better results, and is this engine too small? I have at present a 4 H. P. heavy duty make and break engine, and it travels along at a fair rate of speed, but I have been told by local boatmen that I could stand a larger engine.

F. G. J., Brooklyn, N. Y.

[It is our belief that there is no such thing as the "best results" between these two types of motors. Either of them, if of good design, is very satisfactory, and the choice is more a matter of personal preference than anything else. There are as many advocates for the 2 port motor as for the 3, and it would be very poor policy on our part to start an argument in favor of either one.

We do not believe a 1 inch carburetor is at all too small for this size motor, in fact we would prefer it to one of larger size. We should say that your hull would stand a larger size motor to advantage, if one of the heavy duty type is chosen.]

## Position of the Muffler.

*To the Editor* MoToR BoatinG, *Sir:*

Being a subscriber to MoToR BoatinG, I am taking the liberty of asking you two questions. When using a muffler in connection with a marine engine is it necessary to have it connected directly to the exhaust manifold or may it be placed below the floor about three feet from the manifold? I have an open launch 30 feet x 6 feet 6 inches with a 25/40 engine, located in center of the cockpit. The party who installed the engine placed the muffler above the cockpit floor, stating that it must be connected as closely as possible to the exhaust manifold in order to get results. I would much prefer to have it under the floor in order to save room and appearances. Also I would like to have an under water exhaust but same party advised against it. Kindly give me your opinion on this point.

C. J. I., Cincinnati, Ohio.

[While more satisfactory results are obtained by placing the muffler as close to the exhaust manifold as possible, still there would be no appreciable loss in power by locating it where you desire, provided it is not placed at the very end of the exhaust pipe line.

Some under water exhausts work out perfectly, in fact the writer once had one which gave more r.p.m. than the atmospheric exhaust

On the other hand if the under water exhaust outlet is not placed in the correct position or at too great a depth below the surface of the water then the results will be far from satisfactory. We believe that the exhaust line in this case should contain an expansion chamber of ample size, and the outlet should be at the boat's quarter only a few inches below the water line when under way.]

## A Broken Wake.

*To the Editor* MoToR BoatinG, *Sir:*

Will you please give a reader of your magazine the following information. We have a 30 foot cruising launch, 8 feet 6 inch beam, draught 2 feet 5 inches. This boat below the sheer is very much the same shape as the Caleph and Dream and Ilys. We have tried three propellers. The first one was of unknown pitch. The engine turned it 435 R. P. M. The engine then was new, but it seems to me drove the boat as fast as she is now going. The second was 22 inches diameter and 27½ inches pitch. The engine turned at 535 R. P. M., and was slower than the first one. The next one was a 24-inch diameter x 26-inch pitch, speed 528 R. P. M., and pushed the boat 9 1-9 miles per hour. The water after it leaves the propeller is all broken up and standing on end. It also appears to be standing up on end, also tumbles toward the transom as water comes out from underneath the hull it forms a large swell. Some people say the propeller is slipping. Anyhow, we think this boat should travel faster than she is now going, and would like you to advise us what make of wheel to use and what style. The engine is a two-cylinder make and brake four cycle 6 inch bore and 7 inch stroke, and is sold to develop 14 H. P. at 500 R. P. M. A 24 inch diameter propeller is the largest we can use, this clears the hull by ¾ of an inch. The width of the stem is 3¾ inches. The center of the hub to the stem post is 9 inches, the rudder set fairly close to the wheel but is exactly where the designer placed it on the drawing. The boat does not make any fuss at the bow, does not appear to drive hard and breaks the water easily along the sides of the hull.

F. L. L., Philadelphia.

[We believe that the speed of 9 1-9 miles an hour is very good for this outfit, and if anything it is slightly better than the average boat of this size and power shows. The propeller is turning at only 30 percent slip, which is not extraordinary for a boat of this size.

However, the appearance of the wake would lead us to believe that a wheel of slightly too great a pitch is being used, so if you care to make another change, we would recommend one of three blades, 24 inches in diameter by 24 inches pitch, which should give you at least as good a speed as you are now getting, besides a much smoother running outfit.]

## Why Boats Squat.

In the September issue of MoToR BoatinG, in the third question of the Prize Contest, the first answer had several references to $V/\sqrt{L}$ which very obviously should have been printed $\frac{V}{\sqrt{L}}$ to be correct and the minus signs should have been signs of equality. For example, the writer states that at low speeds, say when $\frac{V}{\sqrt{L}} = 1$, there is very little change of trim; that is, for a boat of, say, 25 feet in length. Then a speed of 5 miles per hour $\frac{5}{\sqrt{25}} = 1$ would produce very little change in trim. When $\frac{V}{\sqrt{L}} = 1.5$ or, for a 25-footer, when the speed is 7½ miles per hour, the setting of the stern begins to occur. At 10 miles, $\frac{10}{\sqrt{25}} = 2$, settling is very noticeable.

## Measurement of a Hull.

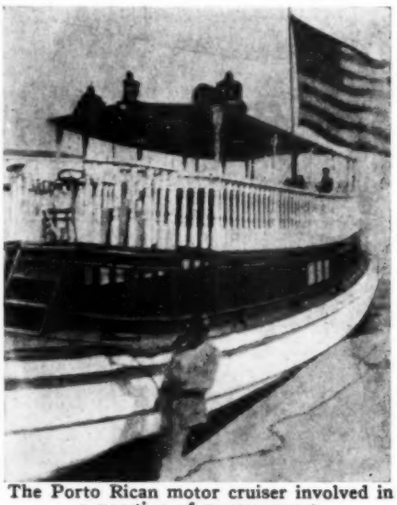
*To the Editor* MoToR BoatinG, *Sir:*

I am a constant purchaser of the periodical of MoToR BoatinG, and knowing of no other person in your country who has knowledge of these matters to whom I can address myself, I take the liberty of consulting you.

The photograph which accompanies this letter is of a launch with gasoline motor which is to be measured, at the Custom House at San Juan de Porto Rico. It has been measured up to the point, which in this photograph is indicated by my X. I claim, according to the law which says that there should be measured all the spaces of a ship which are permanently enclosed that the window frames or the space which there is between the cross X and the mark + should not be measured, because in all that space there is nothing which is permanently enclosed.

I put forth as my reason for believing this, not only my opinion but the opinion of the customs inspectors of ships who hold office in this city, but in the meanwhile the Collector of Customs has demanded a higher opinion from New York. I permit myself the privilege of referring to you in the belief that although I am not a direct subscriber, but a constant purchaser.

F. A. A., Porto Rico.



**The Porto Rican motor cruiser involved in a question of measurement.**

[If the cabin house is enclosed by glass windows or other material so that it may be permanently enclosed, then the boat must be measured to the top of its cabin house. If this house is more in the form of a superstructure without any means of enclosing it, then the boat is measured up to the bottom of the super-structure, as you have marked it in the photograph. Canvas curtains or other material of this kind, used for temporarily enclosing the cabin for protection against the weather do not form a permanent enclosure.

As to whether your boat has permanent enclosure or not is not clear in the photograph, as we are not able to see from this whether the boat has glass windows or not, so you will have to be guided by the statements in the above paragraph.

If the cabin house is only partly enclosed by glass windows, and the rest of it left open without any bulkhead across the boat to separate the enclosed part from the rest of the cabin, it is not considered enclosed.

Should it be partly enclosed with glass windows, and the rest left open and a bulkhead placed across the boat separating the enclosed portion from the open portion, then the measurement is taken up to the deck line, and the cubical contents of the enclosed space above the deck line is added.

**Work-shop of George P. P. Bonnell, builder of the famous series of Old Glorys.**

## Propeller Out of Balance.

*To the Editor* MoToR BoatinG, *Sir:*

I shall be much obliged if you will kindly advise me as to the proper size and pitch of propeller for a 20 H. P. heavy duty, 3-cylinder, 4-cycle engine of 6 inch bore x 6½ inch stroke, installed in a glass cabin launch 52 feet long, 12 feet beam and about 3½ feet draft. I understand the engine turns up about 500 R. P. M. What speed do you think the boat should make with a propeller of the kind you may suggest? The present propeller is a three-blade 24 inches, and about 28 inches or 30 inches pitch. The boat makes about 7 or 8 miles with this propeller. The propeller seems to churn and constantly makes a rumbling noise. What do you think this is due to? I am a constant reader of MoToR BoatinG.

J. R. G., Baltimore, Md.

[We would advise one of three wide blades 24 inch diameter by 24 inch pitch, which should give you a speed of about 8 miles per hour.

The cause of the present propeller seeming to churn is probably because one of too great a pitch is being used, but as to the cause of the rumbling noise that is rather hard to say, unless it is due to a bent propeller shaft, or a propeller which is out of balance. It might also be due to a shaft which does not fit snugly in the shaft log, or due to a stern bearing which is worn or is out of alignment. This would cause a slight whip in the shaft which would cause a rumbling noise when the motor is up to speed, but should disappear when the motor is slowed down.]

## The Mechanical Mixer Problem.

*To the Editor* MoToR BoatinG, *Sir:*

We note in one of your recent issues, the prize answer as to the means of getting the best results out of low test fuel.

The writer's statements are correct, except as to the means suggested for mechanical pulverization of the fuel, presumedly through the use of mechanical mixing devices. He states that these devices are either simply stationary baffle plates or a combination of the latter with a small fan, which is set whirling by the suction.

These statements are misleading as to the means of securing mechanical pulverization and diffusion, as these designs will not produce the desired results. We have experimented with various means of securing mechanical breaking and diffusion for many years, and in connection therewith discovered an effective principle, which is embodied in the design of the Mondex-Helix Gas Mixer, which we have been marketing for several months.

During the experiments referred to, much of the previous experiments of the French with mechanical devices of this kind were verified, and some new knowledge was gained. It was found that with the baffle plates, which shot the mixture back and forth between the walls of the intake pipe, the retarding effect of these interferences was so great as to more than offset any advantage gained in this function, and at slow gas speeds the tendency was to throw the heavy fuel particles against the walls of the pipe where flocculation and globulation occurred to a damaging extent.

In the case of the fine wire mesh it was found that if the meshes were placed closely enough together theoretically to produce breaking of fuel particles that marked retardation resulted from the multiplicity of obstructions. It is interesting to note further that experience with fine meshes indicated that the only value that they possessed was in reducing the extent of wire drawing, due to this retardation, and that, as a matter of fact, the fuel particles do not become broken. It was found that these particles would adhere to the wire in passing and cohere again on the other side, retaining their average size.

There is a conical shape fine wire mesh constructed, which is ordinarily referred to as the Panhard design, which is often found to possess some advantages in cold weather, because of the area of the wires, providing increased evaporation surface.

When this type is used it is necessary to employ an intake pipe of greatly increased diameter in order to prevent the obstruction of the mesh from entirely overcoming the advantage of increased surface area.

In the case of a revolving fan, the result is of the same character as that produced by the fine mesh, and is more than offset by the extent of obstruction involved. A mixer with a revolving fan will only shatter fuel and mix it with the air when revolved by outside power at a speed greater than the pitch of the blade, and the speed of the gas would cause it to revolve automatically.

The writer found that by causing the mixture to swirl and while swirling to pass through widely spaced members that opposed interference at an angle to the general direction of the mixture, breaking and diffusing could be secured without appreciable obstruction in the path of the mixture. This can similarly be accomplished by revolving widely spaced interference members by outside power, swirling the mixture as it passed through them, but the mechanical objections to this latter method are obvious.

In the case of the combination of swirl and interference as employed in the Mondex-Helix, it was found possible so to proportion the pitch of the swirl and the space between the interferences to the area of the intake pipe as to cause an increase in efficiency of the mixture on a line running inversely as to the speed of the mixture so that a minimum increase at 1,600 or 1,800 revolutions of the ordinary type of suction hydro-carbon motor would become a very great increase at the slowest operable piston speed, and inasmuch as the thermal efficiency of a motor, under ordinary conditions, is approximately direct as to the piston speed, we are able to balance this error without necessitating the loss of power at high speeds.

The Aristos Company.

# Helpful Hints for Motorboat Men

**To Find a Knock.**

Some times a knock or pound is easily located by placing a lead pencil between the teeth, stopping the ears and placing the other end of the pencil on different parts of the motor. The sound will be easily found, as it will appear most intense at seat of trouble.

* * *

**Too Much Air.**

When starting a motor, the auxiliary air valve must remain closed, or the mixture may be so weakened that it will be impossible to start the motor.

* * *

**Starting When Hot.**

Sometimes an engine is harder to start after it has been in operation for some time and then stopped, than when cold. This is usually due to the heat making the lubricating oil thin, with the result that some of the compression passes the pistons. A thicker oil will often help overcome this trouble.

* * *

**When Motor Cranks Hard.**

See if the clutch is neutral and free from binding.

* * *

**Irregular Firing.**

An accumulation of dirt or water in the carbureter often results in irregular operation. Remedy: Drain carbureter through pet cock in bottom.

* * *

**Pre-ignition.**

Premature firing has several causes, but irrespective of its origin, the consequences, if allowed to continue, may prove of a serious nature. In most cases pre-ignition can be traced to an early spark (ignition advanced too far), overheated cylinder, due to some fault pertaining to the cooling system or otherwise, faulty lubrication or deposits of glowing (incandescent) carbon in the cylinders or combustion chambers. Any of these causes will produce a deep, heavy sound, which is sometimes accompanied by a severe rack.

To remedy pounding of this nature, always regulate the spark first and if there is no improvement noticeable, the switch should be thrown out of contact, and if the motor continues to run and pound it is evidently due to carbon deposits. On the other hand, if the motor stops running at once the pound is attributable to some other cause.

Do not take engine down until every effort has been made to remove the carbon deposits by employing kerosene, turpentine or any of the standard carbon removers.

* * *

**Two Point Bearing.**

A boat's position is easily found when two lights or day marks can be seen, by taking the bearings of each, then with a parallel rule or course finder, lay these bearings off accurately on chart by using a sharp-pointed lead pencil; where the bearing lines intersect the boat's position is indicated when bearings were taken. If considerable time elapses while figuring this position, the boat's course should be laid off on the chart from the insecting lines and suitable distance allowed, according to the boat's speed to find the true position after passing point where ranges were made.

* * *

**Weak Mixture.**

Lack of power accompanied by weak muffler explosions indicates that the mixture is too weak in gasoline.

* * *

**Retard Spark.**

Don't try to start without first making sure that the spark lever, timer or commutator is retarded.

* * *

**Loss of Power.**

When motor runs in a regular manner, but is weak, the trouble may be attributable to clogged, gummed, rusty or worn piston rings, incorrectly timed or fitted valves, inefficient lubrication, too much gasoline, weak batteries, dirty spark plugs or igniters, poorly adjusted coils, parts out of alignment or clogged silencer.

**Four-Cycling.**

When a two-cycle motor only fires every other revolution, the mixture is too rich. Remedy: Cut down gasoline supply slowly until a regular powerful cycle takes hold.

* * *

**Be Ready**

For emergencies by having a suitable anchor fitted with a line chain situated in a get-at-able place, for when the engine stops in narrow channels or on lee shores there is little time offered to get the mud-hook overboard.

* * *

**Easy Bends.**

Two 45-degree fittings offer less resistance to exhaust gas than one 90-degree fitting.

* * *

**Listening for Sounds.**

Sometimes in heavy, thick weather it is very difficult to locate the sound of a bell buoy or other warning. In some instances an ordinary megaphone proves a very efficient ear trumpet and will enable one to pick up readily the sound warning at a considerable distance. In some cases when the wind and waves are making a great deal of noise it is advisable to stop the motor and then listen for the horn or bell. In this instance, precautionary steps should be taken to stop the motor in such a way that it can be started again at short notice.

* * *

**Clutch Slipping.**

Sudden racing of the engine often indicates that the clutch is out of engagement or slipping. A good remedy for slipping is to wash the friction surfaces of the bands thoroughly with gasoline. These bands should be kept entirely free from grease or oil.

* * *

**The Correct Spark Gap.**

Care should be taken not to open the points of a spark plug more than the thickness of a dime. A spark larger than one produced by a gap of this size does not increase the efficiency of the motor, but, on the other hand, a greater gap quickly exhausts the battery.

* * *

**Drain Water Jackets.**

In the late fall and winter months when severe frosts are apt to set in unexpectedly, it is advisable to drain the water jackets to prevent freezing.

* * *

**Use Long Lines.**

When alongside a dock where there is considerable rise and fall of tide, use long breast lines instead of making the ends of the boat fast at right angles.

* * *

**Soap On Gas Line.**

A temporary remedy for a leaking gasoline pipe or joint is had by coating one side of a strip of cloth with yellow soap and binding same around the leaking part.

* * *

**Motor Stops Suddenly.**

When a motor stops without warning after operating in a regular manner it is usually due to a short or broken electric circuit, and the primary and secondary wires should be gone over carefully.

* * *

**Synchronous Firing.**

In order that a gas engine develop its maximum power it is necessary that the firing in all cylinders accurately corresponds in time.

* * *

**A Good Belt Dressing.**

Dynamo or other belts which have a tendency to slip should receive prompt attention. A little castor oil rubbed evenly on the inside of the belt will, in the majority of cases, restore good traction.

* * *

**Use Sand Paper.**

When cleaning the contact breaker points in magneto it is always advisable to use fine sand paper. Emery cloth is good, but the small particles of emery are a powerful abrasive, and are apt to injure the armature bearings or cause elusive short circuits.

**A Long Splice.**

In splicing two ends of a primary wire it is advisable to cut the insulation off for a distance of at least an inch. The ends of wire should then be scraped bright and twisted securely together and the splice then bound tightly with electric tape. A splice of this kind offers less resistance to the passing current than a shorter one, which is very desirable.

* * *

**On Rivers.**

When navigating rivers follow the long bends and thus avoid back eddies and snags.

* * *

**Black Smoke.**

When a gas engine exhausts black smoke which rapidly disappears it is a positive indication of an over-rich mixture. Remedy: Reduce amount of gasoline allowed at needle valve, reduce tension on air check spring to allow more air, or both. When making the above adjustments allow a little time to elapse between each new setting of the needle or air valves in order that the motor may operate under the new mixture and indicate any existing fault.

* * *

**Blue Smoke.**

Blue smoke which does not disappear at once usually indicates an excess of cylinder oil. Remedy: Reduce oil gradually until exhaust clears. Care must be exercised to allow the motor sufficient time to use up the excess oil in cylinders, for otherwise the supply might be cut down to such an extent that when the excess oil in cylinders had been used up, the lubrication would then be insufficient and wear or seizing would result.

* * *

**Ball Bearings.**

When one or more balls are lost or broken the bearing should be fitted with a new set.

* * *

**On Anchoring.**

Never anchor at low tide without letting out sufficient chain or cable to allow an easy lead after the tide comes in, for otherwise the boat might break the anchor out.

* * *

**The Watch as a Compass.**

By pointing the hour hand of a watch directly towards the sun, South will be indicated half way between the hour hand and 12 on the dial.

* * *

**Automatic Valve Springs.**

The multi-cylinder motor's automatic inlet valves should be fitted with springs of equal tension to insure the cylinders receiving the same volume of mixture.

* * *

**Base Explosions**

In two-cycle motors generally indicate a lean mixture. Remedy: Increase the gasoline supply, feed less air, or both.

* * *

**Blow Back**

Through carbureter usually indicates that part of the compression in cylinder is leaking past inlet valve or valves. Cause, dirty or pitted valves, valves warped, hung up or out of time.

* * *

**To Test Batteries.**

Dry cells or storage batteries should be tested immediately after they have been in service and not before starting.

* * *

**When Two Tremblers Buzz**

Or a unit of a coil operates when not in line with the timing of the commutator, there is a short circuit. A deposit of metal shavings in timer will sometimes produce this trouble, but it is more frequently attributed to a loose wire touching the commutator or a wire with broken down insulation.

* * *

**Steering Lines.**

Always keep steering lines taut to prevent the line from over-lapping on the steering wheel drum and forming a jam hitch.

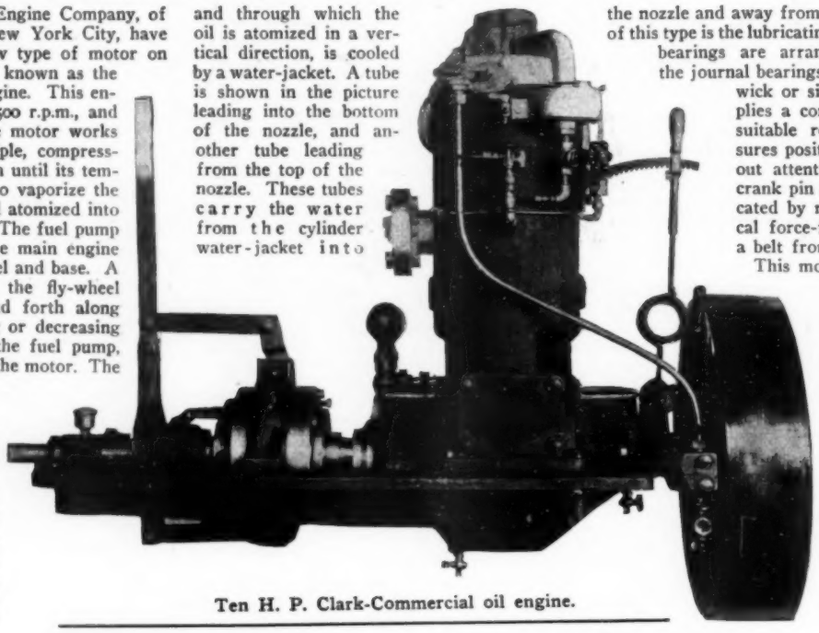
# MARINE MOTORS

## The Remington's New Type.

**A Small Powerful Heavy Duty Unit That Will Be Known as the Clark-Commercial Oil Engine, Operates on the Semi-Diesel Principle. Fuel Supply Controlled by Centrifugal Governor.**

THE Remington Oil Engine Company, of 120 Broad Street, New York City, have recently placed a new type of motor on the market which will be known as the Clark-Commercial Oil Engine. This engine develops 10 h.p. at 500 r.p.m., and weighs 825 lbs. net. The motor works on the semi-Diesel principle, compressing the air for combustion until its temperature is high enough to vaporize the oil when it is injected and atomized into the combustion chamber. The fuel pump is driven by a cam on the main engine shaft between the fly-wheel and base. A centrifugal governor in the fly-wheel moves this cam back and forth along the shaft, thus increasing or decreasing the length of stroke of the fuel pump, according to the speed of the motor. The fuel passes through a pipe from the pump, near the fly-wheel, that is shown in the accompanying picture, to the nozzle which projects into the cylinder head. The head of the engine is air-cooled, so that at all times it is very hot. The nozzle, however, which carries the oil into the center of the head and through which the oil is atomized in a vertical direction, is cooled by a water-jacket. A tube is shown in the picture leading into the bottom of the nozzle, and another tube leading from the top of the nozzle. These tubes carry the water from the cylinder water-jacket into the nozzle and away from it. Another feature of this type is the lubricating system. The main bearings are arranged somewhat like the journal bearings of a freight car. A wick or similar substance supplies a constant oil flow from suitable reservoirs, which insures positive lubrication without attention. The wrist pin, crank pin and piston are lubricated by means of a mechanical force-feed oiler, driven by a belt from the main shaft.

This motor is equipped with a Paragon reverse gear, a large ball-bearing thrust and a bronze circulating pump. The control lever shown on front of engine regulates the speed from 125 to 500 r.p.m. The builders have endeavored to produce a motor which can be economically but effectively operated at a low maintenance cost.



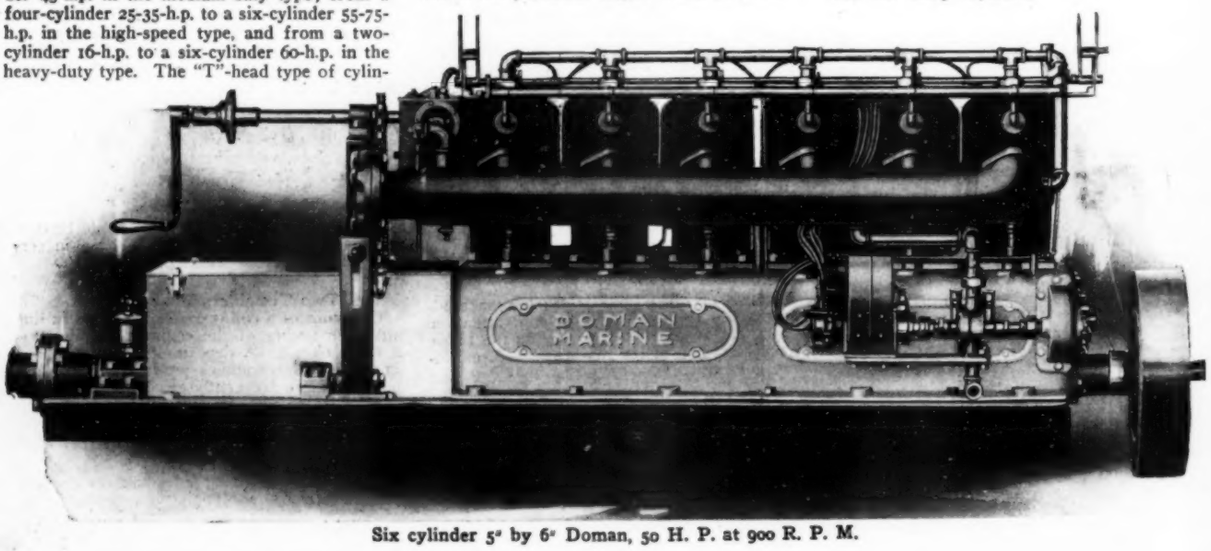
Ten H. P. Clark-Commercial oil engine.

## The Doman "Six."

**A Moderately Light Weight, Compact, Four-Cycle Motor, Designed to Power Heavy Cruisers or High Speed Boats. Equipped with "Built in" Magneto, Force Feed Oiler, Rear Starter and Planetary Type Clutch.**

THE H. C. Doman Company, of Oshkosh, Wis., manufacture a very complete line of gasoline motors which are adapted to all conditions where a powerful engine is required. The Doman motors all operate on the four-cycle principle and are built in several sizes, from a two-cylinder 6-h.p. to a six-cylinder 45-h.p. in the medium-duty type; from a four-cylinder 25-35-h.p. to a six-cylinder 55-75-h.p. in the high-speed type, and from a two-cylinder 16-h.p. to a six-cylinder 60-h.p. in the heavy-duty type. The "T"-head type of cylinder is used on all the models and has proven entirely reliable. All the material used in the construction of Doman engines is of the highest quality. The parts are accurately machined and made from jigs so that they are all interchangeable, facilitating the purchase of repair parts and assuring the purchaser of parts which will fit the particular engine which he owns.

The high-tension dual ignition system is used on all medium and high-speed types, including and above 12 h.p. On all heavy-duty types the high-tension double-independent system is used. The motors under 12 h.p. are equipped with distributor coil and batteries. The reverse gear is of the planetary type, entirely dependable and easily adjusted.




Six cylinder 5" by 6" Doman, 50 H. P. at 900 R. P. M.

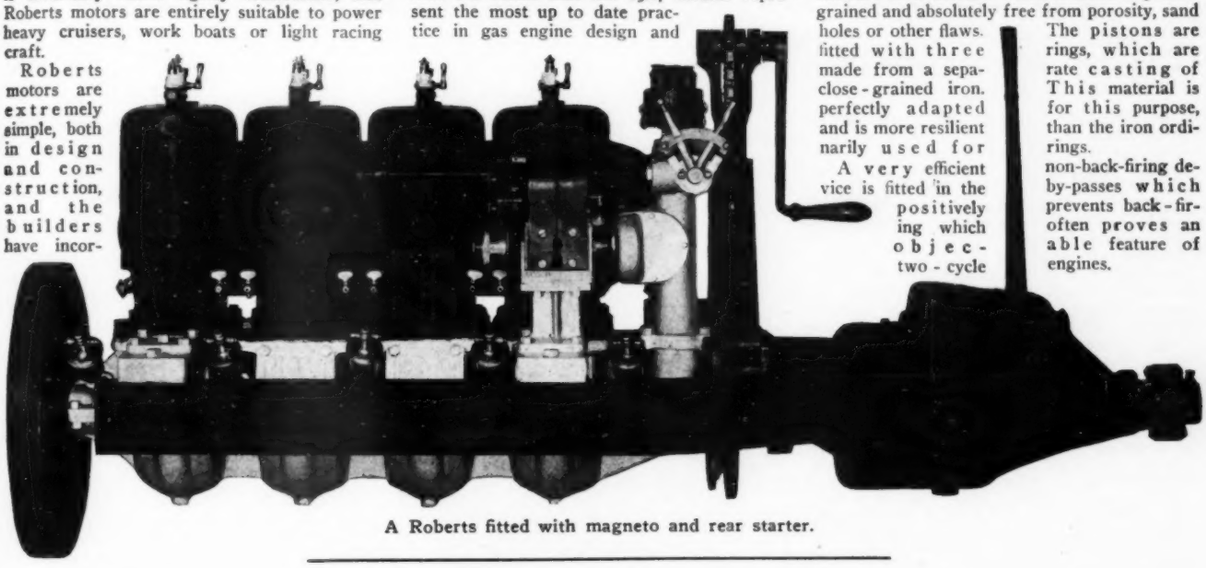
# Roberts Motors.

**A Powerful Refined Two-Cycle Engine, Built in Ten Sizes, 3 to 125 H. P., One to Six Cylinders: Lubrication-Oil in the Fuel and Automatic Grease Cups. Equipped with Non-Back-Firing Device.**

THE Roberts Motor Company, of Sandusky, Ohio, make a specialty of building two-cycle motors, and although this type is invariably rather lightly constructed, still Roberts motors are entirely suitable to power heavy cruisers, work boats or light racing craft.

Roberts motors are extremely simple, both in design and construction, and the builders have incorporated in their several models all the minor improvements which have been suggested from time to time to overcome slight difficulties, with the result that the 1914 models represent the most up to date practice in gas engine design and construction. The materials used are the best obtainable for their particular purpose. The cylinders and pistons are cast from a special mixture of semi-steel which is extremely close grained and absolutely free from porosity, sand holes or other flaws. The pistons are fitted with three rings, which are made from a separate casting of close-grained iron. This material is perfectly adapted for this purpose, and is more resilient than the iron ordinarily used for rings.

A very efficient non-back-firing device is fitted in the by-passes which positively prevents back-firing which often proves an objectable feature of two-cycle engines.



A Roberts fitted with magneto and rear starter.

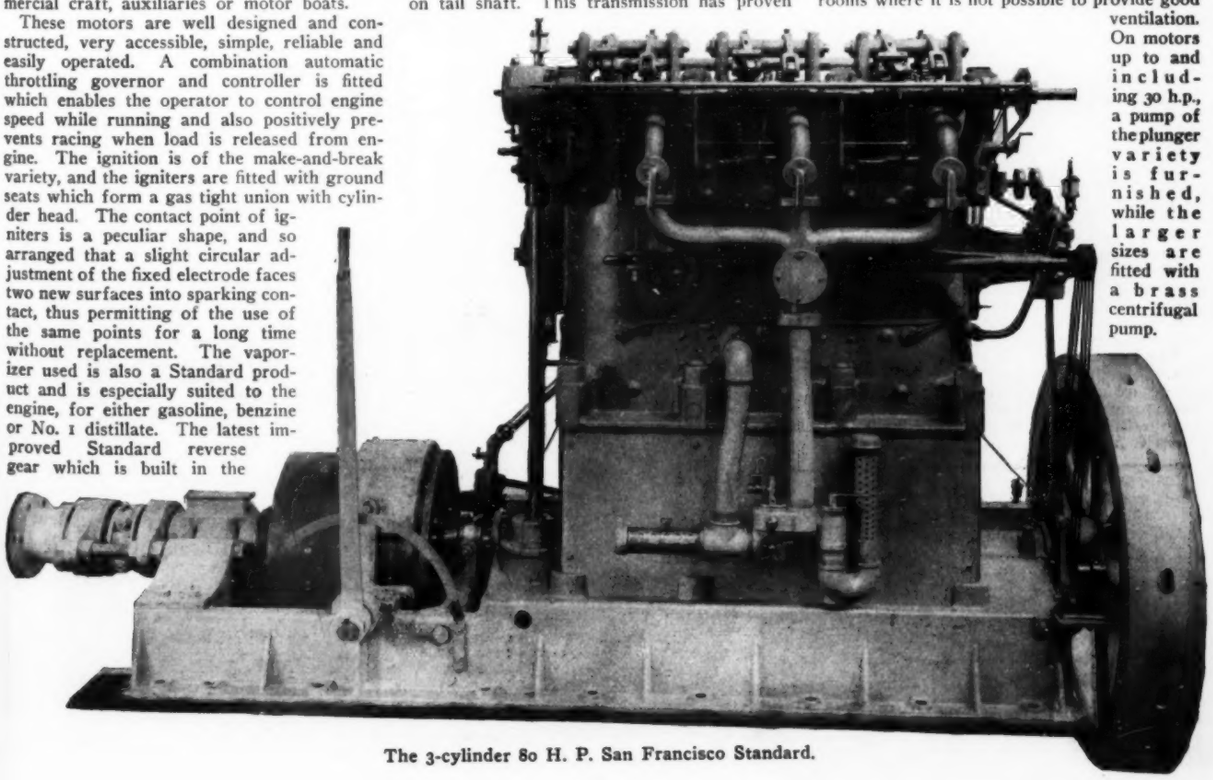
# The San Francisco Standard.

**An Extensive Line of Heavy Duty, Four-Cycle Motors Which Are Economically Operated on Gasoline, Benzine or Distillate, Fitted with Automatic Speed Controller.**

THE Standard Gas Engine Company, of San Francisco, Cal., offer a very complete line of heavy-duty four-cycle motors which are suitable to power heavy commercial craft, auxiliaries or motor boats.

These motors are well designed and constructed, very accessible, simple, reliable and easily operated. A combination automatic throttling governor and controller is fitted which enables the operator to control engine speed while running and also positively prevents racing when load is released from engine. The ignition is of the make-and-break variety, and the igniters are fitted with ground seats which form a gas tight union with cylinder head. The contact point of igniters is a peculiar shape, and so arranged that a slight circular adjustment of the fixed electrode faces two new surfaces into sparking contact, thus permitting of the use of the same points for a long time without replacement. The vaporizer used is also a Standard product and is especially suited to the engine, for either gasoline, benzine or No. 1 distillate. The latest improved Standard reverse gear which is built in the extended bed plate is of the level type and is direct connected when boat is being propelled ahead, the reverse motion being obtained through bronze bevel pinions to reverse gear on tail shaft. This transmission has proven entirely efficient and dependable. By an ingenious method the crank cases are enclosed and made entirely gas tight. This feature makes the Standard motor well adapted to engine rooms where it is not possible to provide good ventilation.

On motors up to and including 30 h.p., a pump of the plunger variety is furnished, while the larger sizes are fitted with a brass centrifugal pump.



The 3-cylinder 80 H. P. San Francisco Standard.

# New Things for Motor Boatmen

## The B. & W. Gearless Boat Reverse.

This device, which is manufactured by the Bremer-Wilson Manufacturing Co., of 1321 Michigan Avenue, Chicago, consists of two beveled disks, of the same diameter, facing each other, in the center of which are the propeller shaft clutches. Between these two beveled disks, and diametrically opposed, are two cones, in horizontal position, of the same diameter as the disks, which fit against the portion of the surface of the disks which are beveled. The propeller shaft is divided in the center of the mechanism. The disk or flywheel next to the engine contains a friction clutch. This clutch is used on the direct drive while the reverse is obtained by throwing the lever forward, which action throws the cones against the beveled surfaces of the disks, releases the clutch on the direct drive, engages the clutch in reverse wheel, transmits the power from the main to the opposite disk and throws the shaft in the opposite direction. The speed of the propeller is the same on the reverse as on direct drive. The shaft may be driven in either direction as often as desired, or the engine disengaged altogether.

* * *

## The Raymond Carbureter.

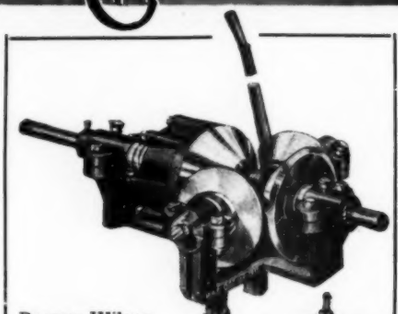
The Raymond carbureter is designed to give a uniformly saturated mixture of the correct proportions at all speeds and under extreme conditions and controlled by the engine suction. It is claimed the desired results have been attained by the arrangement of the nozzle or gasoline distributor which allows both gasoline and a small proportion of the air to pass, insuring perfect vaporization. A system of circular plates controlled by air pressure assists to complete the saturation. The only adjustment necessary is provided by the thumbscrew at the top. The carbureter costs from $19 to $22 and is made by the Raymond Carbureter Company, of Des Moines, Iowa.

* * *

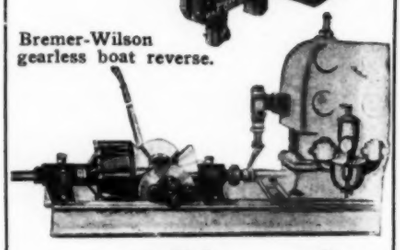
## The C. O. D. Indicator.

These are so called because of the three indications which they give, viz.: charging, off and discharging. When connected in circuit and mounted on the bulkhead they thus show the operator at a glance how his lighting and starting system is performing. If "off" is shown with engine running, the automatic switch, the generator brushes or the wiring evidently require investigation. If "discharge" appears when lights are thought to be turned off, warning is similarly given of abnormalities which require correction, and if "charge" shows running along, the operator knows that his reverse store of electric energy is being constantly increased.

The electric circuit is stationary and composed of a few turns of heavy copper strip. There are no springs, levers or cams and but one moving part in the device. The makers are the Roller-Smith Company, of 203 Broadway, N. Y. C.

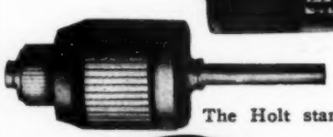


Bremer-Wilson gearless boat reverse.



"Ezekleen" spark plug.

Raymond carbureter.



The Holt starter.

## The "Ezekleen" Spark Plug.

This is practically a one piece production as the wire is baked in the porcelain which, in turn, is baked into the shell. It is claimed that, owing to the location of the spark gap and the cone shape of the porcelain, short circuiting is impossible, even if oil dashed against the plug. There are no washers, gaskets or packings; imported kaolin is used for the porcelain and the wire is of spark point nickel. The plug costs 75c. and is made by the Perpetual Spark Plug Company, of 330 East Drinker Street, Dunmore, Pa.

* * *

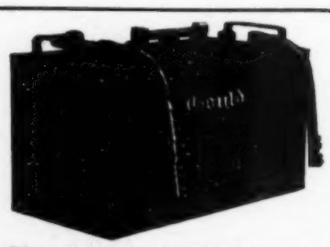
## The Holt Starter.

The Holt starter is composed of few parts and may be quickly dissembled into four units. It weighs approximately thirty-four pounds and is built strongly to withstand rough usage under adverse conditions. The casing for the field coils is made of high-grade cast steel, the three parts being securely held together by four bolts in each end. The armature is carried on ball bearings of large size, insuring smooth, easy running. The shaft is a drop-forging, case-hardened and smoothly ground. The starter is operated by a six-volt battery, which, of course, necessitates the use of a lighting dynamo for charging. The battery is charged automatically from the dynamo. It is claimed that the starter will spin the largest six-cylinder engine for an hour. The starter turns the fly-wheel until the engine picks up, when the starter gear is automatically released, and the current that has been used in making the start will be quickly replaced in the battery again. The makers are The Holt Electric Company, of Milwaukee, Wis.

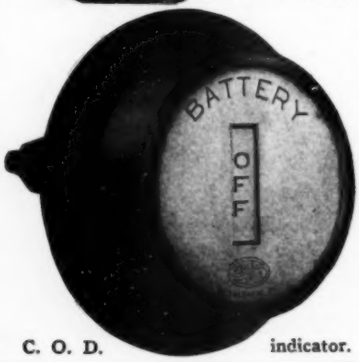
* * *

## New Gould Batteries.

Two new types of storage batteries for starting, lighting and ignition are now being marketed by the Gould Storage Battery Company, of New York. The active material in the positive plates of these batteries is very hard, dense and closely bound, so that a thin surface layer only is softened when the plate is developed for service. As the plate wears in continued service, more of the mass is gradually softened and the original capacity is thus maintained practically throughout the life of the plate, or until the active material is worn to a thin core. The advantages claimed for this hard paste composition are resistance to wear, retention of capacity, resistance to dislodging of active material through overcharge, ability to withstand hard service conditions and elimination of damage due to jarring and vibration. The group of cells, in hard-rubber jars, is inclosed in a strong, hardwood box, and the design of the terminals, hard and soft-rubber elements and pitch seal are such that, it is said, leakage of acid and corrosion of the terminals are prevented absolutely.

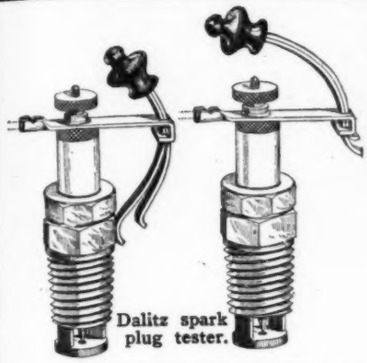



New Gould starting, lighting and ignition battery.

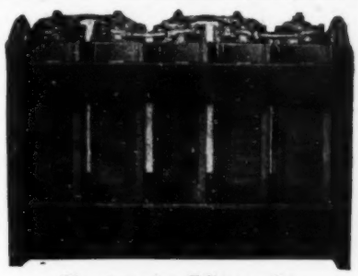



C. O. D. indicator.

New Gould lighting and ignition battery.



Dalitz spark plug tester.



Five type A-5 Edison cells.

A. B. magnetic lamp.

## Dalitz Spark Plug Tester.

The Dalitz spark plug tester and terminal is a device which may be instantly fitted to any spark plug as a permanent attachment. When not in use as a tester, it is left in the open position and does not interfere in any way with the normal action of the plug to which it is attached. The principle by which it operates is that of eliminating all plugs except the one to be tested. This is done by pushing down the movable part of the tester until it touches the plug and thus short-circuiting it. The makers are the Dalitz Mfg. & Sales Co., of 803 Union Street, Seattle, Wash., and the price is $1.50 for Set No. 1; $2.25 for Set No. 2.

* * *

## New Edison A-5 Battery.

The Edison Storage Battery Company, of 114 Lakeside Avenue, Orange, N. J., has brought out a new type A-5, nickel-iron alkaline cell. The A-5 battery has a rated capacity of 187½ ampere hours, an intermediate between the type A-4, 150 ampere hours, and type A-6 225 ampere hours. The new battery is designed for light work. It is claimed that this cell may be left "on charge" indefinitely and may even be put on charge in the reverse direction without harm. The container, grids, poles, etc., are made of heavily nickel-plated steel and it is practically impossible to damage any part of the cell by falls, jars or collisions. The Edison A-5 battery, like the other Edison vehicle batteries, carries a guarantee that it will be capable of developing its full rated capacity at the end of four years.

* * *

## The Breeze Tank Valve.

The Breeze "Four in One" tank valve contains a strainer, a sediment cup and a shut off valve, and also provides an emergency tank which is incorporated with the main fuel tank. The combination is worked by a three-way valve which is operated by a lever. The valve, which is intended to be installed at the bottom of the fuel tank, is designed to act as adequate strainer, to provide a supply of fuel for use in emergencies and to shut off the fuel from the carbureter when the boat is at anchor. The device is made by the Breeze Carbureter Co., of 250-252 South Street, Newark, N. J.

* * *

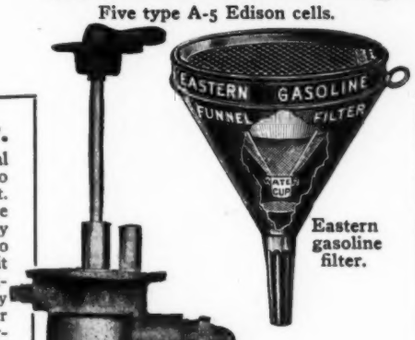
## A New Gasoline Filter.

The Eastern Oil Tank Co., of 136-146 Fletcher Street, Lowell, Mass., have introduced a gasoline filter which is specially designed to prevent water or other foreign substances from passing through to the tank. This is effected by a retaining cup which is shown in our illustration. A feature of the filter is the absence of chamois or other substance of similar nature.

* * *

## The Hallgren Valve Lifter.

The Hallgren Valve Lifter is stamped from cold rolled steel which is then case hardened, producing a tool which is both light and strong. The forked ends of the lifter may be spread or closed to fit the valves of any particular engine and are especially adapted to deal with valves situated in awkward positions. The lock is designed to hold firmly under all conditions. The device is made by Carl Hallgren, of 682 Summit Avenue, Pasadena, Cal., and costs $1.50.




Eastern gasoline filter.



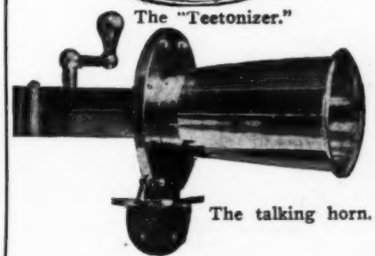
Breeze "four in one" tank valve.

Parker vaporizer.

New battery connector with Fahnestock clip.

Hallgren valve lifter.

The "Teetonizer."



The talking horn.

## A Magnetic Lamp.

The Adams-Bagnall Electric Co., of Cleveland, Ohio, have introduced a handy trouble lamp which is fitted with a small electro magnet in parallel with the lamp with the result that it will stick to any iron or steel portion of the boat or engine, leaving the operator's hands free for adjustments, etc. The lamp weighs 13 ounces and has a holding pull of as many pounds. The silver plated stamped reflector is 2½ inches across the face; the magnetic sticking face (with one pole of the magnet in the center) is 1⅝ inches across. The main body which serves as a neat handle and a covering to the magnet is made of aluminum. Each lamp is fitted with cord and terminals so that it can be connected to battery terminals.

* * *

## The Parker Vaporizer.

The Parker Vaporizer is intended to be installed in the manifold above the carbureter where it forms its own gasket. Its function is to intercept and thoroughly mix the gasoline and air as received from the carbureter. This it effects by means of the rotary motion imparted inside the conical mesh screens. It is said that tests have shown a saving of over 25 per cent. of fuel and also that the engine is rendered more flexible and carbon deposits diminished by its use. The vaporizer costs $3 and is made by The Parker Manufacturing Company, of Broad Street and Ridge Avenue, Philadelphia, Pa.

* * *

## A New Battery Connector.

This connector is furnished with the well known Fahnestock clip. All that is needed is to remove the knurl from the battery binding post, open the clip and slip it over the threaded post. When in place it can only be removed by loosening the clip. The wire used is strong, heavily insulated cable which is very flexible. Soldered as it is to the clip, a broken connection is almost impossible. To prevent corrosion with resulting loss in current, the clips are metal plated. No tools are necessary in applying this connector, which can be used over and over again on different batteries. The National Carbon Company, of Cleveland, Ohio, has the exclusive sale of this device in the United States.

* * *

## The "Teetonizer."

This device is intended to be inserted in the manifold base or the throat of the carbureter, in conjunction with nipples of similar design which are placed in the individual discharge orifice of the manifold. It is claimed for these devices that, owing to their form and general construction, the wire elements which are integrally constructed with the surrounding wall, they efficiently break up the fuel particles and thus insure more perfect combustion, enabling a heavier or lower grade fuel to be used. Eli Teeter, of Newark, N. J., is the inventor of the device.

* * *

## The Talking Horn.

Although its vocabulary is limited to variations on the word "Mamma," the talking horn manufactured by the Talking Horn Company, of Middletown, N. Y., seems to be something unusual in the way of warning devices. Rotating the handle the reverse way produces an ordinary note. The cost is $25.

# Boats of Stock Design

## The Speedway Thirty.

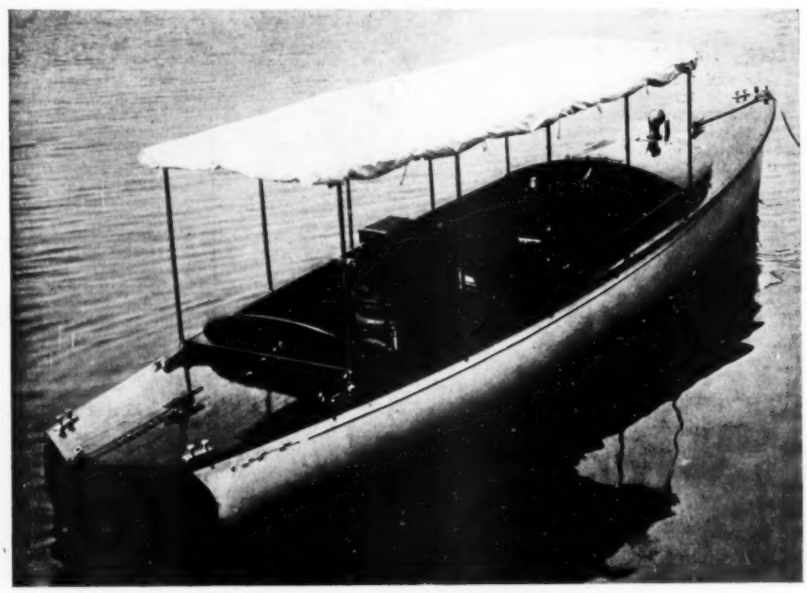
THE Gas Engine and Power Company, Charles L. Seabury and Company, Cons., Morris Heights, N. Y., manufacture a fast and serviceable runabout of the following dimensions: Length 30 feet; beam 3 feet; draft 2 feet, 2 inches.

The hull is carefully and substantially constructed, cedar planking on oak frames, copper riveted. The decks, coaming, covers over motors and interior trim are finished in selected mahogany. The power equipment consists of a four cycle 18 to 22 h.p. Speedway gasoline marine engine, arranged with jump spark ignition and equipped with Bosch mageto and McCord force feed oiling system; Tobin bronze propeller shaft; bronze propeller wheel, strut, stern bearing and power whistle outfit. The tank is made of copper and set in a suitable pan which drains overboard and positively prevents any accumulation of gasoline from this source. Starting crank, switchboard, gages and gasoline valve are located on bulkhead aft of engine. Controls to motor are on steering-wheel. The reverse lever is conveniently arranged near the steering-wheel in a manner which allows easy control.

to the make up of large Matthews motor boats is well represented in this model.

The motor is installed under the forward deck, but is easily accessible for oiling or adjustments.

The engine controls are placed on the steering wheel, and suitable starting devices are located on the engine bulkhead.



A Speedway day boat fitted with wicker chairs.

## Rice 20-Foot Auto Boat

RICE BROTHERS CO., of East Boothbay, Maine, make a specialty of fast open motor boats and are now offering a sturdy little craft of the following dimensions: 20 ft. 3 in. over all; 4 ft. 4 in. beam; and 1 ft. 4 in. draft.

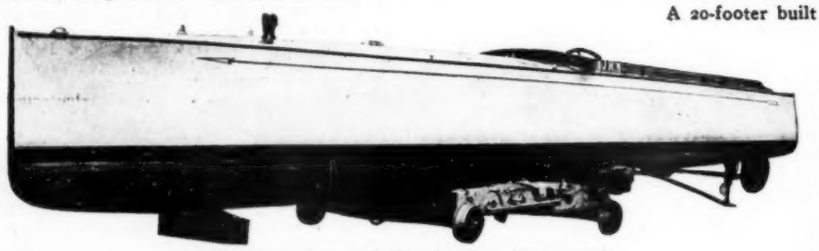
The engine is installed under the forward deck which allows a large roomy cockpit. The boat is handsomely finished throughout with mahogany trimmings which are finished in the natural wood.

A rear engine starter, Remy auto switch and polished brass watch stand with watch are situated on the paneled bulkhead. A panel in this bulkhead is removable to give access to the grease cups and to the moving parts of motor which require attention. The amidship seat is fitted with folding backs, and accommodates two persons, another comfortable seat is placed across the stern while the remainder of the cockpit is given up to large easy chairs. The boat is powered with an 8-10 h.p. two cylinder Rice motor.

A 20-footer built by Rice Bros.

## A Fast Runabout

THE Matthews Company, of Port Clinton, Ohio, offer a very attractive 30-footer which is suitable for day cruising or for fast ferry service. This boat has a beam of five feet which is very ample for a boat of this type. The model has proven exceptionally seaworthy under all conditions and capable of maintaining a high speed in very rough water without subjecting the occupants to the discomfort of flying spray or pounding. Only the best materials obtainable are used in the construction of this boat and the same care and attention that enters in-



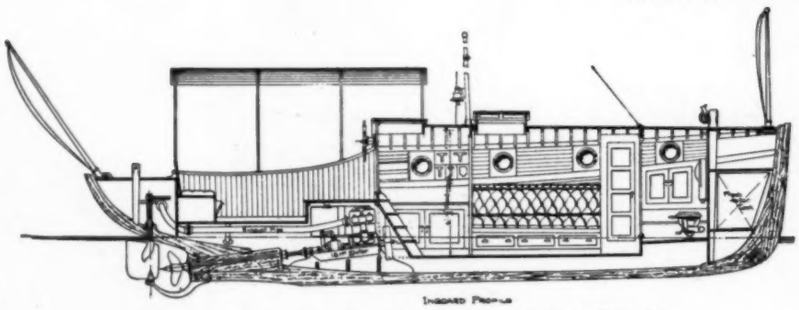
A Matthews boat suitable for fast ferry service.

## A 34-Foot Cruiser

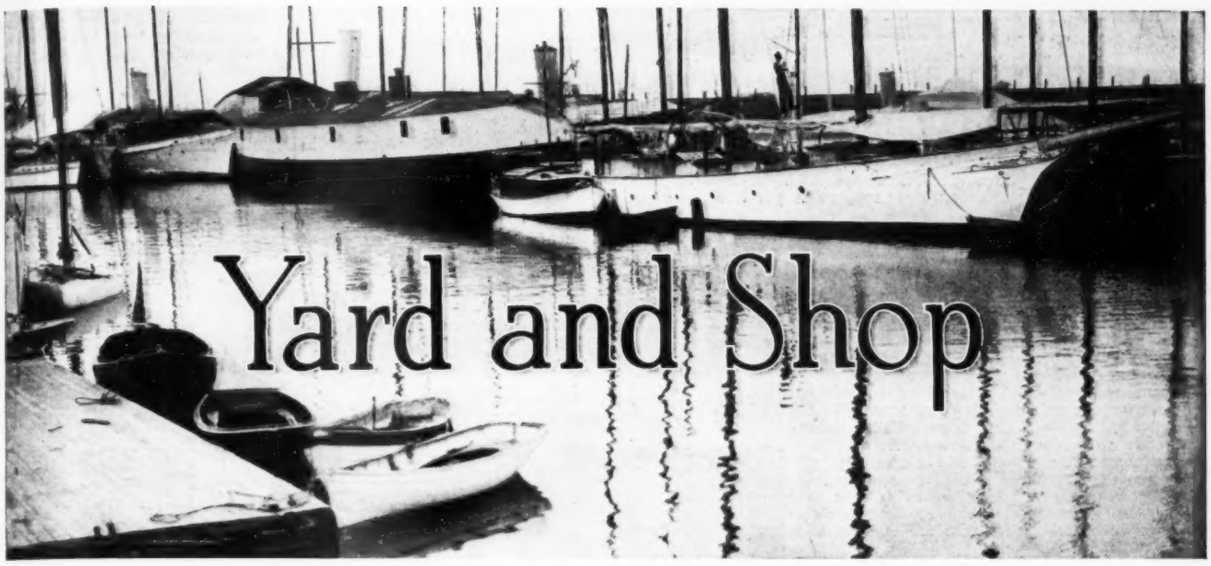
THE Milwaukee Yacht and Boat Co., of Milwaukee, Wis., build a 34-foot cruiser which is shown in the accompanying plan. The design has been worked out to give sufficient freeboard to allow full head room throughout the cabin. Although the model is very full to give good cabin accommodations still the hull presents a symmetrical appearance in the water, due to the decided flare on the bow sections and carefully modeled stern. The motor is installed at the after end of the cabin and extends under the cockpit floor, hatches are placed in the bridge deck, which permit easy access to all parts of the engine.

The materials and workmanship are of the highest standard throughout, and the boat is delivered complete in every detail and fully equipped.

It is powered with a four-cycle two-cylinder, 5-inch bore, 6-inch stroke motor which develops 14 b.h.p. at 600 r.p.m.



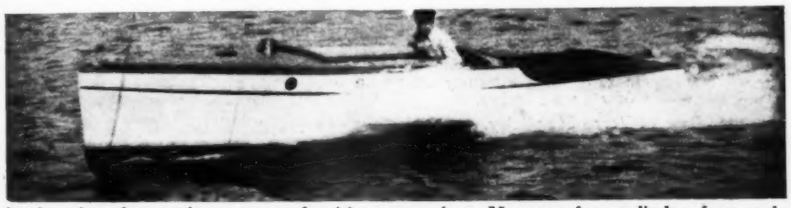
A 34-foot Cruiser, built by the Milwaukee Yacht & Boat Co.



# Yard and Shop

**Durkee's Catalogue.**

Chas. D. Durkee and Company of New York City have certainly "put one across" in their new catalogue No. 14. To begin with, the volume contains more than a thousand pages, which would make it impressive in any case, but more than that it is excellently gotten up. There are ample illustrations of every product mentioned and in arrangement the book leaves nothing to be desired. If there is anything that mortal motor boatman could need that he doesn't find in the Durkee catalogue, we shall be much surprised. Messrs. Durkee are to be congratulated on having put out a handsome and satisfactory catalogue in every way.



**An Austrian day cruiser, powered with a 40-45 h. p. Mercury, four cylinder, four cycle motor. This boat was built by Capt. E. Ambrosini of Triest and is remarkably speedy in spite of the fact that she is essentially a cruiser.**

**"Elsie IV."**

The New York Yacht Launch and Engine Company, have recently completed an interesting 57-foot cruiser, "Elsie IV," which is an unusually satisfactory craft. The beam of the boat is 8 feet, and the draft 5 feet. The interior dimensions are: Engine-room and galley, 18 feet; toilet, 3 feet 6 inches; saloon, 8 feet; cockpit, 14 feet 7 inches, and after deck, 6 feet 11 inches. "Elsie IV" is powered with a 6 cylinder 6½ x 8¼ Twentieth Century motor, which gives her a speed of 17 miles per hour.

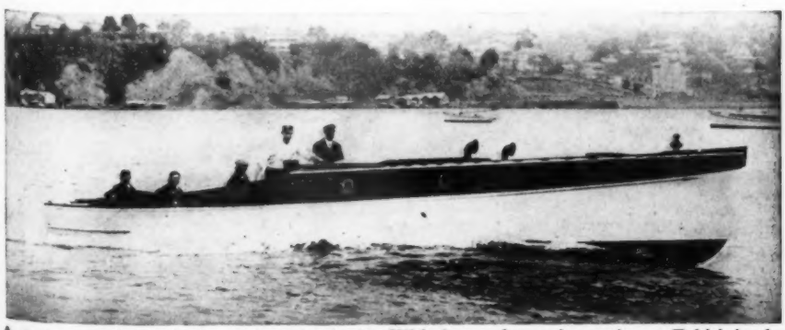
**A New Sales Manager.**

Otis Funderburk, formerly Michigan manager for the Rayfield Carbureter, has been appointed sales manager of the carbureter division of the Detroit Lubricator Company, who are making and marketing the "Stewart" carbureter.

**"Stroller."**

This boat, which we illustrate, was designed by John L. Hacker, of Detroit, for Percy Redick, of Albany. She is a mahogany runabout having an underbody construction of the V-bottom type. The power equipment is a six cylinder type C, Van Blerck motor, and turns one of the Mechanical Devices Company's propellers at 1,200 r.p.m. It is stated she has been driven over short distances at a rate of 34 miles an hour but the guaranteed speed is four miles less. This boat has automobile control.

**"Scat," a 16-foot Mullins hydroplane, owned by F. A. Mabbett of Rochester. This boat made a record for consistency at Toledo and Put-in-Bay.**



**A motor runabout, designed by Morris M. Whitaker and now in service at Tahiti, in the South Pacific. Her power plant is a 90 h. p. Buffalo high speed engine.**

**Cupror.**

Cupror is a metal which when buffed up, is said to possess the lustre of polished gold, and is consequently a suitable metal for marine usage, such as for motor boat fittings, etc., as is will not corrode, and can be kept clean and bright with little labor. It is not affected by sea water or air and occasional wiping with a cloth is all that is necessary to maintain its brilliancy. If allowed to become coated with deposits it only needs washing with soap and water. Cupror is sold in ingot castings, forgings, sheet, rod and wire, and is highly malleable, having a very high tensile strength. Tests show the rod to have a strength of 93,000 lbs. to the square inch, and the wire, 20 B. & S. gauge, 138,500 lbs. to the square inch. Cupror metal spins and draws readily, having the requisite tenacity, or toughness with ductility, and needs neither lacquer nor plating. It is being handled in New York by Chas. D. Durkee & Co., Inc.

**The Bremer Wilson Company.**

The Bremer Wilson Manufacturing Company has been incorporated under the laws of the State of Michigan, with a capital stock of $150,000, $100,000 common stock and $50,000 7 per cent. cumulative preferred.

The officers are: Fred G. Bremer, president and general manager; H. R. Mansfield, vice-president; I. N. Wilson, treasurer; and F. W. Stilwill, secretary. The following articles are now handled by the Bremer-Wilson Mfg. Company; Gearless Boat Reverse, The Triplex Spring Self Starter, The Triplex Ford Engine Starter, The Triplex Auto Crank Lock, The Triplex Gas Saver, American Compensating Valve, Triplex Pickup Plier, Peerless Self Adjusting Lug, Ford Housing Puller and the Triplex Bow Fastener.

**Flying Boat Doings.**

Gerald T. Hanley, millionaire stockbroker of this city, visited the Newport Horse Show recently, in a new conveyance, one of Glenn Curtiss' flying boats. Hanley, with his aerial pilot, Raymond V. Morris, flew from Providence to Newport in seventeen minutes, the usual time for the journey by steamer being something more than an hour. They landed at Captain Willoughby's camp, had luncheon with Walter Hanley, who was showing his horses that afternoon, visited the horse show, and during the evening flew back to Providence. Mr. Hanley is very enthusiastic about

**"Lady May," a 55-foot cruiser, whose 40 h. p. Buffalo engine turns up a consistent 10½ miles per hour.**

the air and water craft and says he feels no apprehension when riding in it.

J. Lansing Callan, a younger brother of the framer of the New York State automobile law, is at Hammondsport, watching the completion of a new flying boat being built for him by Glenn Curtiss, which Callan will take to Lake George in a few days. Callan expects to spend quite a vacation during October flying over Lake George and possibly over Lake Champlain. The flying boat will be fitted with wheels so that in case Callan does not care to fly over the narrow strip of land separating Lakes George and Champlain he can run the boat across the portage under its own power. He is taking the flying boat to Lake George at the invitation of some of the Sagamore stock holders who are anxious to ride in it.

**Kermath Motors in the Orient.**

The Kermath Manufacturing Co., of Detroit, Mich., send us an illustration of one of their engines which is accompanied by what we presume is a caption in Japanese. At any rate they are careful to point out that the said inscription is not a "Chop Suey" sign but is merely a notification that the advertiser is a dealer who handles the Kermath in far Japan. We are sorry that the engine and caption do not lend themselves to reproduction as they certainly serve to show the progressiveness of the hitherto impassive Oriental.

**"Nanky-Poo."**

"Nanky-Poo," a trim little runabout, is owned by E. E. Richardson, of Cleveland, Ohio. The boat is 32 feet long, 6 feet 4 inch beam and equipped with a 25-h.p. three-cylinder Ferro motor. The Nanky-Poo achieved note this season by winning first prize of $100 in the Perry Centennial Bang-and-Go-Back races, Class S and also the Ferro Cup in the Cleveland Power Boat Races.

**"Nanky-Poo," a 32-foot runabout, owned by E. E. Richardson of Cleveland. She is powered with a 25 h.p., 3-cylinder Ferro.**

**Yachts Change Hands.**

The Hollis Burgess Yacht Agency has sold the cruising auxiliary yawl, "Samoset," owned by F. P. Spears, of Boston, to Carleton M. Woods, of Brookline, Mass., and the 21-foot raceabout "Dorsyl," owned by S. L. Cookin, of South Boston, to L. Gordon Hamersley, of New York, who will use her in Bar Harbor, Maine. The same agency has chartered the 80 foot motor boat "Avocet," owned by William P. Wharton, of Groton, Mass., to Vice-Commodore Roger Upton, of the Boston Yacht Club; the auxiliary sloop "Hope," owned by Henry G. Patten, of Boston, to Charles E. Hellier, of Boston; the 50 foot motor boat "Totem," owned by Fremont Kimball, of Wakefield, Mass., to a prominent New York yachtsman, and the schooner yacht "Fame," owned by G. Walter Vialle, of Concord, Mass., to C. R. Joy, of Boston.

**A Speedy Mullins Hydroplane.**

Among the hydroplanes, both large and small, participating in the recent races held at Toledo and Put-in-Bay, the Mullins 16 foot Hydroplane "Scat," owned and driven by Mr. F. A. Mabbett, Rochester, N. Y., during the meet finished in each race in which she started, and during that time was driven over 500 miles at full speed without a single breakdown or replacement of any kind except a new set of spark plugs and new propeller. The "Scat" is a regular Mullins stock model, which had been shipped to Mr. Mabbett but a few weeks prior to the races. A duplicate of this hydroplane won the championship and incidentally all speed events at the first annual Coeur d' Alene Regatta held at Coeur d' Alene Lake, Idaho, earlier in the season. This was the first appearance of the Mullins Steel hydroplane on the lake.

**A Speedy Gray.**

Paul R. Boeringer is the owner of a Gray equipped boat which was winner in its class at the races of the St. Paul Motor Boat Club Regatta on August 9.

Mr. Boeringer's boat which is equipped with a two cylinder 12 h.p. Gray model "R" defeated in this race a thirteen-foot Bumble Bee hydroplane equipped with a three-cylinder, lightweight 15-h.p. engine and a 25-foot displacement racer installed with a two-cylinder four-cycle motor of 4¼ x 5½ inches.

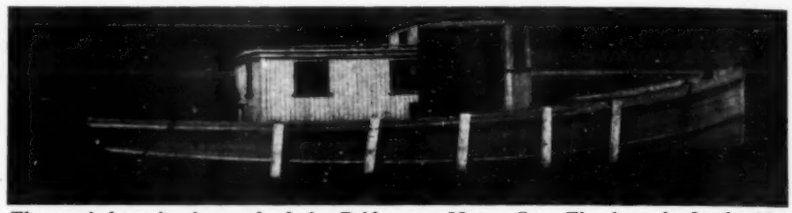
**Another Case of Ferro Simplicity.**

E. A. Pierce, of Rockville, Conn., who in 1912 installed a 3-h.p. Ferro special engine in an 18-ft. boat of his own design, sends us an interesting letter. He says: "The engine has never failed to start and my three year old boy operates her as well as I can." We might also add that the above boat makes better than 12 miles per hour and Mr. Pierce has won several exciting races from higher powered crafts during the past season.

**"School's Out"—a Sterling Engined Cruiser.**

One of the successful boats of this season is the 36 ft. x 7 ft. cruiser owned by George A. Coe, a member of the Colonial Yacht Club, New York, designed by Elliott N. Burwell and built by the T. S. Poekel Co. This boat is powered with a four-cylinder 5½ x 6 inch Sterling engine rated at 30-50 h.p. and maintains a cruising speed of 12 miles per hour. The internal arrangement from bow to stern is: Anchor line, 65-gallon gasoline tank, cabin with two extension berths and plenty of lockers, engine room and galley, including stove, sink and refrigerator, cockpit ending in lazy-back seat. The cockpit is large enough to accommodate two cot beds so that the boat "sleeps" four persons. All controls are close to the steering-wheel, so that one man easily handles the boat. The design of the hull is such that her lines are very speedy, but at the same time the qualities of a good sea boat are not lost sight of. An auxiliary mainsail and jib are carried which explains the size and height of the mast.

Another craft powered with a Sterling. "Wilhelmina" is a 40 ft. x 6 ft. displacement boat built by Nunes Bros., Sacramento, California, for the West Sacramento Co., who use her to take people to their lands along the river. The boat was designed to take a 150-180 h.p. Sterling engine, similar to the power plant of "Ankle-Deep," "Baby Reliance" and other equally well known speed boats, which is designed to develop a speed of over 30 miles per hour with eight people on board. The engine is equipped with a Rushmore electric starter and lighting outfits. The boat has an overhang bronze strut with long shoe extending back under the propeller to protect same in shallow water. The shoe is detrimental to speed but saves the boat many a knock.



**The work boat in the yard of the Bridgeport Motor Co. The boat is fitted with a Bridgeport kerosene engine.**

**"Lady May."**

A view of the motor yacht "Lady May," owned by Commodore H. B. Wurdeman, of Seattle, and powered with a 40-h.p. Buffalo engine. Her length over all is 55 ft.; 10-ft. beam and 3-ft. draft; speed, 10½ miles per hour. "Lady May" is one of the best-known cruisers on Puget Sound and last year she won the Potlatch trophy against a very good field.

**New Remington Engine.**

The Remington Oil Engine Company has just placed on the market a new type of oil engine. This engine is called the Clark-Commercial, and it retains all of the essential features of the Remington oil engine. Some little sacrifice has been made in way of accessibility, and the number of parts has been reduced with the idea of making as great a reduction as possible in the price. There has always been a demand for Remington oil engines because of their low operating cost and safety. The question of first cost has, to some extent, stood in their way, and the Remington Oil Engine Company, in placing the Clark-Commercial type on the market, is trying to obviate this.

The motor develops 10 brake horsepower at 500 r.p.m., and weighs 825 pounds. A propeller 24 inches in diameter or less is used, depending on the size and construction of the boat. The motor is equipped with a Paragon reverse gear with ball thrust bearing. A bronze circulating water pump drives the cooling water through the cylinder jackets. It is equipped

**"Schools Out," a 36-foot cruiser owned by George A. Coe. The boat is equipped with a 30-50 h. p. Sterling engine.**

with the Clark-Commercial water-jacketed nozzle.

**Bosch Appointments.**

The Bosch Magneto Co. has recently made the following appointments: Pennsylvania Rubber Supply Company, Cleveland, O.; Ozburn Automobile Supply Company, Inc., Memphis, Tenn.; Lemke Electric Company, Milwaukee, Wis.

The following supply stations were appointed: W. D. Andrews Company, Syracuse, N. Y.; Diamond Motor Car Company, New Rochelle, N. Y.; George B. Wuestefeld Company, New Haven, Conn.; Newport Engineering Works, Newport, R. I.; Sloan & Clapper, Newburgh, N. Y.; Hamilton & Bertram Motor Supply Company, San Diego, Cal.; J. G. McCrillis & Son, Manchester, N. H.; Automobile Supply Company, Tacoma, Wash.; G. W. Shroyer & Co., Dayton, O.; J. Edward Newton, Fall River, Mass.; Southern Auto & Supply Co., Chattanooga, Tenn.; G. Norman Banghman Company, Inc., Tampa, Fla.; McGraw Brothers Company, Jacksonville, Fla.; Fox-Shryock Auto Company, Fort Wayne, Ind.

**"Stroller," owned by Percy Redick, of Albany, N. Y. This boat was designed by John L. Hacker and is equipped with a Van Blerck six cylinder motor.**

sentatives out on 10 and 20-mile trips to see a customer who has complained, and then have the men come back and report that the customer threw the instruction book away without ever opening it, and then put the switch on upside down. The one thing I am thankful for is that only about 1 per cent. of the customers have any complaint. This means that the remaining 99 per cent. can read and understand kindergarten English."

**For the Library.**

The Packard Electric Company, of Warren, O., has just issued a book which will be found valuable by motor boat owners. It is entitled "Electrical Installations for Automobiles and Motor Boats."

**A fleet of five 18-footers owned by the Naval Association of Lisbon. These boats are all powered with 6 h. p. Perfection engines.**

**Leckler with Grossman.**

H. H. Leckler has joined the staff of the Emil Grossman Company, of New York City, in the capacity of mechanical engineer. Mr. Leckler resigned the position which he held on the engineering staff of the International Harvester Company to act as designer of the Grossman products. Formerly he was in the engineering departments of the Winton Motor Carriage Company and the F. B. Stearns Company.

**New Johns-Manville Branch.**

The H. W. Johns-Manville Company has recently opened a branch office at Charlotte, N. C. The new office is located in the Commercial Bank Building and is in charge of E. H. Heslop who will be assisted in covering the western section of North Carolina by P. J. McCusker and Paul W. Whitlock.

**Reverse Switch Instructions.**

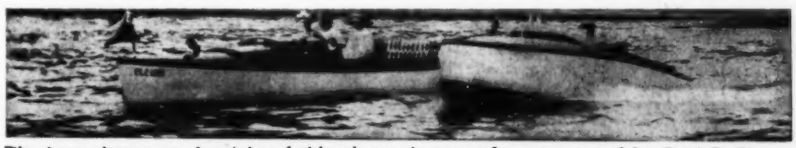
"There are only three excuses for a Moore Reverse Switch not working after it has been installed," said Gerald T. White, the sales manager for J. B. Moore, the other day. "The first is that the customer cannot read; the second that the motor is in such poor condition that it will not run properly either ahead or astern, and the third is that the customer tries to put the switch in working order without reading the directions. The first of these excuses shows a very unfortunate condition; the second an unnecessary one, but the third is a wholly inexcusable one.

"When a boatman buys an article and then refuses to read the directions that are furnished free he deserves to get 'stung,' and if it wasn't for Mr. Moore, who insists upon my maintaining the money-back-if-you-want-it plan, no matter what the reason for the kick, I would let some of them stay in trouble as a lesson to all. If I ever have my way, a customer will have to prove to me before he buys a switch that he can read and understand common-sense English. I am getting tired of spending Mr. Moore's money sending repre-

**New Bosch Branch.**

A New York branch of the Bosch Magneto Company, of New York, has just been organized for the purpose of attending to the increasing number of Bosch users in its territory. The details of operations previously carried on by the executive officers and staff are now taken care of by the new branch, in a field known as the "Eastern Territory," made up of all the states east of the Ohio and Mississippi Rivers.

Alfred J. Poole, formerly assistant chief engineer, has been appointed branch manager of the New York branch.



**The boat shown on the right of this picture is a speedy racer owned by Paul R. Boeringer. She recently won the event in her class at the regatta of the St. Paul Motor Boat Club. The boat is equipped with a 12 h. p. Gray engine.**

**Motor Boats in Austria.**

The U. S. consul in Vienna recently called attention to the field for motor boats in Austria, as follows:

"Very little interest has been taken in motor boats in Austria up to now, but it is safe to predict that in this country of innumerable mountain lakes, many of which are world famed for their beauty and superb surroundings, motor boating will, in time, become popular. Motor boats are beginning to make their appearance on the streams and lakes about Vienna, and the present time seems most favorable for American manufacturers of boat motors to get a foothold in this market.

"At the Adriatic Exposition now being held in Vienna an American detachable motor is on exhibition and is attracting attention. These motors are also attached to a number of row-boats that may be rented in the exposition grounds, and very probably this exposition will do much to make motor boating popular and to make interested parties acquainted with this type of American rowboat motor. A 2-horsepower motor of this kind is sold in Vienna for $118, and a 3½-horsepower motor of the same kind costs $173. I have been informed that there are no motors of this kind made in Austria.

"I am told that a company was recently formed in Hungary for building and selling motor boats at Lake Balaton in Hungary. The Thornycrofts of England are said to be interested in this company financially. The object is to build boats in Hungary and import the motors from England."

**Scripps on Saskatchewan.**

A four-cylinder 48-h.p. Scripps motor was recently sold to H. L. Williams, of Edmonton, Canada, for installation in a tunnel stern river boat which will be used on the Saskatchewan River.

**Eldridge Has Lamb Agency.**

It has just been announced that the Albert E. Eldridge Corporation is now the exclusive distributing agency for Lamb motors in New York City and vicinity. The Eldridge Corporation's show rooms, at 30-50 Church Street, New York, have been enlarged and now include the space formerly occupied by the M. I. Doyle Company. The above concern is showing in addition to a complete line of Lamb motors, a line of Fulton two cycle motors, one of them being a new high speed product of this company. The Winton four cycle engine is also on exhibit together with the Erd two cycle "Featherweight" and the new four cycle four cylinder en bloc, 25 horse-power runabout motor, complete an unusually full line. The United 5-horsepower stationary engine with the Hopper, governor, pulley, gasoline tank, batteries, etc., are also on view at the Eldridge people's office. It will be recalled, of course, that this firm is the metropolitan distributor of the Eldridge Whitaker hydroplane and of the Nantucket dory.

**Loew-Harbeck Consolidation.**

It has just been announced that the Gas Engine Department of the Loew Manufacturing Company, of Cleveland, has consolidated with the Harbeck Motors Company, of Chicago. Until the new factory in Chicago is completed the line of medium duty, heavy duty and high speed Loew-Victor motors will be manufactured in Cleveland and the high speed, heavy duty engines, formerly known as "Harbecks" will be built in their present factory. The new factory which is building now in Chicago is to be up-to-date in every respect and equipped with the latest devices in every field for the manufacture of marine motors.

**A Correction.**

On page 10 of our September issue in a notice of "Uncle Sam's Inspection Motor Boat," there was unaccountably omitted the fact that "Tarregon," the boat in question is equipped with a six cylinder 60 horse-power Lamb motor.

**"Made-in-Detroit" Week.**

"Made-in-Detroit" week during which downtown merchants of the City of the Straits gave up their show windows to local manufacturers, has been the most successful industrial exhibit ever held in Detroit, and will be made an annual feature. Everything from sheet music and pills to automobiles was exhibited.

The Detroit Lubricator Company had a very comprehensive and interesting exhibit promi-

**"Nosredna," a 40-foot day cruiser recently launched for the Anderson Engine Company, with one of whose 6-cylinder, 5 x 6 medium speed engines she is powered.**

nently displayed on Woodward Avenue. The exhibit included a stand with three mechanical force feed oilers pumping against a pressure of 200 pounds. These oilers had glass fronts and electric lamps inside showed their mechanical operation in a very interesting manner.

The Detroit oiler which gave such excellent service in the little 35-foot motor boat "Detroit" on her trip across the Atlantic Ocean to St. Petersburg also attracted a great deal of attention.

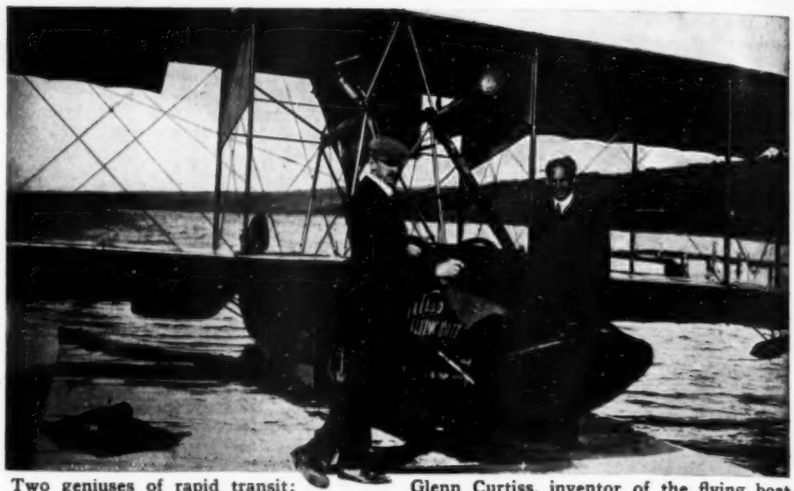
**Niagara Dividend.**

We are informed that the Niagara Motors and Manufacturing Company, of Dunkirk, N. Y., will shortly pay its first dividend of 7 per cent. This announcement was hardly expected so soon in view of the fact that the company did not commence operations in its new plant in this city until the latter part of March of this year, and more especially since weeks elapsed before it was possible to get their factory in smooth running order.

**New Field for American Motors.**

One of our consuls in the South American State of Paraguay, calls attention in a recent report to a field for American motor manufacturers that is worthy of consideration. He says:

"The upper tributaries of the Paraguay and Parana Rivers offer a field worthy of special study by manufacturers of marine motors. In the port of Asuncion there are always to be seen a number of wide, shallow-draft boats, 30 to 50 feet long, loaded to the water's edge with merchandise for remote interior points. From Asuncion they are towed to the smaller streams where they are left to the slow, laborious method of poling, requiring large crews of men and frequently months of time in reaching their destination. Paraguay is a country almost entirely without roads, but abounding in rivers suitable for the navigation of these boats, or 'chatas,' as they are called in Spanish. This means of transportation is therefore not likely to be changed except by an improvement in the motive power of these boats. If American manufacturers make nothing of such an opportunity some one else will, and will find a territory for trade extension throughout the upper water courses of one of the greatest river systems in the world. For it is along this river system, more than any other avenue in South America, that the interior of the continent is to become populated."



Two geniuses of rapid transit: Glenn Curtiss, inventor of the flying boat and Henry Ford at the flying camp on Lake Keuka, near Hammondsport.

"Elsie IV," designed and built by the New York Yacht & Launch and Engine Co., of Morris Heights. She is powered with a 6-cylinder, 20th Century engine.

## On the Mississippi.

(*Continued from page 12*)

the "Little Leading Lady," third. In class E, a new field of boats appeared, among whom were the "Barnacle," "Baby Reliance," "Hydro-Bullet," "Van Blerck," "Teaser IV" and "Oregon Kid." The Kid proved her mettle, winning first place in the heat, with "Baby Reliance" second and "Van Blerck" third.

On Thursday, the final heat in class E and the Webb Trophy race carrying with it, besides the magnificent Webb Trophy and one thousand dollars, the Championship of the Valley were to be run. The wind was strong, and a heavy sea was running when the start was made for the final heat of class E. After making one round of this race, the Van Blerck was seen to be in distress, and before help could reach them she sank in mid-lake. The "Oregon Kid" took the heat and race. The "Baby Reliance" second and the "Hydro-Bullet" third. After this heat, the judges decided to postpone all races, until the following morning, Friday, in the hopes of smoother water.

Early Friday morning, every one was astir in anticipation of the classic event of the regatta, the Webb Trophy Race, and from the standpoint of speed, and sheer excitement, no one was disappointed. The wind was fresh and the lake was tumbling up huge white-caps, when the preparatory gun was fired. Six boats lined up for the start. "Hydro-Bullet," "Barnacle," "Oregon Kid," "Tango," "Teaser IV" and "Baby Reliance." The boats were well bunched at the first round, with the "Oregon Kid" gradually taking the lead, followed closely by "Hydro-Bullet" and the "Baby." After the first round the "Baby Reliance" seemed to be in distress, and shortly afterwards was forced to withdraw, owing to a loose plank, while the "Tango" dropped out at the start owing to magneto trouble. The driver of the "Hydro-Bullet," Mr. Deakin, was thrown against the steering wheel with such force in making a turn, that its mechanician was forced to run the boat to the judges stand for help.

**OCTOBER, 1913.**

**4th—Delaware River Y. R. A. Norristown (Pa.), Motor Boat Club. Race for speedboats.**

**11th—Columbia Yacht Club (Chicago), cruise down the Drainage Canal.**

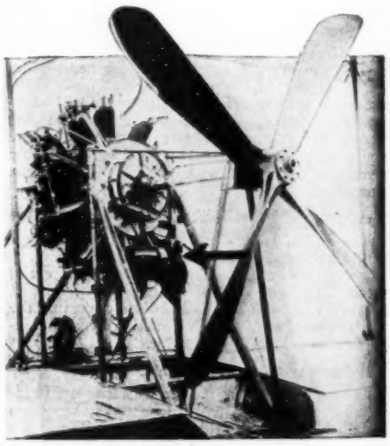
**12th—Hudson River Motor Boat Club. Club run to Piermont, N. Y., and race to clubhouse.**

**12th—Portland (Ore.), Motor Boat Club. To Government Island.**

**SHOW DATES.**

**Jan. 31—Feb. 7, New York Motor Boat Show.**

**Feb. 28—Mar. 7, Chicago Motor Boat Show.**



Hartford starter, the first device of this sort installed on a hydro-aeroplane.

## Chicago's Second Carnival

(*Continued from page 13*)

the 20-footers in addition to Hydro-Bullet, Kitty Hawk V, and Van Blerck, well-known 26-footers. The preliminary heats went to Oregon Kid, Kitty Hawk V, Van Blerck, with Baby Speed Demon again the best second. In the finals the latter repeated her performance of the pay previous, this time beating Van Blerck by over three minutes. (See page 36.)

The 32-foot class on the third day of the meet brought out no new starters and the preliminaries went to Baby Reliance, Van Blerck, Oregon Kid and Hydro-Bullet. The finals went to Oregon Kid, with Van Blerck second.

The preliminaries for the Wrigley Trophy were held over a 14-mile course on the inner harbor—Disturber III, Baby Reliance, Oregon Kid and Kitty Hawk V qualifying. Barnacle, Hazel II and Kitty Hawk, Jr. also took part in the trial heat and performed very creditably.

The final for this valuable trophy was held on the inner harbor over a 30-mile course and the real contest narrowed down, as in 1912, to Disturber III and Baby Reliance. Oregon Kid held the lead for five of the fifteen laps, but misfortune, which had been following her as well as Kitty Hawk V, again overtook them and Disturber III won, with Baby Reliance a good second.

# MOTOR BOATING ADVERTISING INDEX


A

Aaron Automatic Bilge Pump Co. 66
American Engine Co. 89
American Life Saving Garment Co. 68
American Motor Parts Co. 80
American Steam Gauge & Valve Co. 66
American Thermos Bottle Co. 68
Anderson Engine Co. 80
Anderson Spark Plug Co. 66
Apple Electric Co., The 66
Aristos Co., The 64
Automatic Bilge Bailer Co. 66
Automatic Machine Co., The 71

B

Baldridge Gear Co., The 87
Bath Marine Construction Co. 80
Binney, Arthur 60
Boston Varnish Co. 66
Boucher Mfg. Co., H. E. 66
Bowes & Mower 60
Breaznell, Jos. H. 68
Bridgeport Bronze Marine Paint Co. 66
Bridgeport Motor Co., Inc. 81
Brooks Mfg. Co. 70
Brown-Collins Gas Engine Co. 70
Bruns, Kimball & Co., Inc. 58-60
Bryant & Berry Co. 86
Buermann, August 62
Buffalo Gasolene Motor Co. 96
Byrne, Kingston & Co. 81

C

Caille Perfection Motor Co. 87
Camden Anchor-Rockland Mach. Co. 88
Campbell Co., A. S. 62
Campbell Motor Co., The 76
Canadian Fairbanks-Morse Co., Ltd. 64
Cape Cod Power Dory Co. 72
Carlisle & Finch Co. 95
Carlyle Johnson Mach. Co., The 83
Carpenter & Co., Geo. B. 86
Chelsea Clock Co. 66
Chicago Varnish Co. 66
Classified Advertisements 59
Cleveland Auto Boat Mfg. Co. 80
Coe (W. H.) Mfg. Co. 62
Columbian Brass Foundry 83
Cox & Stevens 50-60
Cragg Motor Mfg. Co. 64
Craig, James 60
Crockett Co., The David B. 66
Curtiss Co., J. H. 62
Curtiss Aeroplane Co., The 68

D

Darrow Steel Boat Co. 64
Davis Boat Works Co., The 70
Dayton Electrical Mfg. Co. 72
Defoe Boat & Motor Works 72
DeLong Engine Co. 70
Detroit Lubricator Co. 86
Diem, Gus A. 62
Doman Co., H. C. 91
Driver-Harris Wire Co. 62
Durkee & Co., C. D. 86

E

Edison, Inc., Thomas A. 78
Elco-Bayonne (The Electric Launch Co.) 2d Cover
Eldredge (Albert E.) Corp. 80
Electric Goods Mfg. Co. 70
Electric Tachometer Co., The 66
Emmons Specialty Co. 72
Erd Motor Co. 79
Evans Stamping & Plating Co. 68
Evinrude Motor Co. 76

F

Fairbanks, Morse & Co. 70
Fairhaven Iron Foundry Co. 68
Fay & Bowen Engine Co. 91
Fellows Yacht & Launch Co. 60
Ferdinand & Co., L. W. 70
Ferro Machinery & Foundry Co. 78
Fiske Bros. Refining Co. 74
Fogg, M. W. 95
Frisbie Motor Co. 95

G

Galusha, A. L., & Co. 72
Gardner, Wm., & Co. 52
Gas Engine & Power Co. and Chas. L. Seabury Co., Consolidated 79
Gasoline Engine Equipment Co. 70
General Electric Co. 68
Gielow & Orr 54
Gies Gear Co. 68
Gill & Sons Foundry Machine Works 76
Gillespie, Chas. H., & Sons 91
Gilmore Motor Mfg. Co. 64
Goblet-Dolan Mfg. Co. 68
Gray Motor Co. 73
Gray-Hawley Mfg. Co. 72
Gries Engine Co. 70
Grimm Mfg. Co. 64

H

Hacker, John L. 70
Hall Co., W. S. 92
Hall Gas Engine Co. 62
Hand, Wm. H., Jr. 60
Harper's Bazar 70
Harris (A. W.) Oil Co. 64
Hatch Oil Engine Co. 72
Hearst's Magazine 74
Henke Mfg. Co. 72
Henricks Novelty Co. 64
Herbert & Huesgen 72
Holmes Motor Co., Inc., The 3rd Cover
Hopkins & Co., John C. 72
Horton, Frank J. 77
Howard Cruiser Works 64
Hurd, A. W. 60
Hyde Windlass Co. 84
Hydrex Silent Exhaust Works 68

I

Ideal Switch Co. 62

J

Janney, Steinmetz & Co. 87
Jencick Motor Co. 64
Jennings Yacht Agency 57
Jerolamon, Willard A. 74
John, William Edgar 60
Jones, Frank Bowne 55
Jones Co., S. M. 85
Jordan Bros. Lumber Co. 68

K

Kahlenberg Bros. 94
Kenyon Co., R. L. 68
Kermath Mfg. Co. 88
Koven & Bros., L. O. 72
Krice Carburetor Co. 92
Kroh Mfg. Co. 95
Kuhls, H. B. Fred 68

L

Lake Drummond Canal & Water Co., The 89
Lamb Engine Co. 96
Landay Bros., Inc. 64
Lawley, Geo. & Son, Corp. 70
Leary Gasolene Engine Co. 70
Lebby Engineering Co., The 64
Leece-Neville Co., The 74
Lisk, Geo. A. 74
Lockwood-Ash Motor Co. 84
Loew-Victor Mfg. Co., The 67
Luders Marine Construction Co. 66

M

McClellan Top & Hood Co. 72
McFarland Foundry & Machine Co. 76
McQuay-Norris Mfg. Co. 87
Marburg Bros., Inc. 72
Marine Compass Co. 72
Mathis Yacht Building Co. 66
Matthews Boat Co., The 3rd Cover
Maximotor Makers 74
Mea Magneto 72
Mechanical Devices Co., Inc. 72
Mercury Motor Co. 85
Mianus Motor Works, The 95
Michigan Steel Boat Co. 64
Michigan Wheel Co. 83
Miller, Chas. E. 64
Milton Boat Works 76
Milwaukee Yacht & Boat Co. 63
Monarch Valve Co. 91
Monitor Boat & Engine Co. 66
Moore, J. B. 62
Morgan Mfg. Co. 95
Morris, B. N. 74
Morss Co., A. S. 94
Mosler (A. R.) & Co. 64
Motsinger Device Mfg. Co. 64
Mullins, W. H., Co. 66
Murphy Varnish Co. 64
Murray & Tregurtha 76

N

Narragansett Chemical Co. 68
National Gear Co. 68
Naval Architects & Yacht Brokers 60
New Departure Mfg. Co. 68
New York Gear Works 68
New York Yacht, Launch & Engine Co. 94
Niagara Motor Boat Co. 83
Niagara Motors & Mfg. Co., Inc. 84
Nicholson File Co. 74
Nock, Frederick S. 60

O

Oakes & Dow Co., The 85
Oshkosh Metal Products Co. 94

P

Packard Electric Co. 88
Page Engineering Co. 76
Palmer Bros. 74
Pearl Machine Co. 68
Peerless Engine Co. 95
Pioneer Boat & Pattern Co. 94
Planhard Mfg. Co. 64
Pneumatic Mfg. Co. 62
Poekel, T. S., & Co. 60
Pyrene Mfg. Co. 89

R

Racine Boat Co. (Racine) 85
Racine-Truscott-Shell Lake Boat Co. 68
Red Wing Motor Co. 95
Regal Gasoline Engine Co. 82
Reid Wheel Co. 68
Reliance Motor Boat Co. 56-70
Rice Bros. Co. 68
Richardson, G. R. 68
Robbins Co., L. D. 62
Roberts Motor Co. 88
Robertson Bros. 64
Roper & Co., C. F. 72
Rose Mfg. Co. 62

S

S. R. Mfg. Co. 74
Samson Cordage Works 90
Sands & Sons Co., A. B. 92
Scripps Motor Co. 93
Seaman, Stanley M. 51
Shaw Propeller Co. 64
Smalley-General Co. 62
Smith & Co., Edward 72
Smith-Serrell Co., Inc. 94
Snow & Petrelli Mfg. Co. 90
Splitdorf Electric Co. 92
Standard Co., The 92
Standard Gas Engine Co. 69
Standard Motor Construction Co. 84
Standard Oil Co. 2nd Cover
Stanley Co. 72
Star Ball Retainer Co., The 74
Stearns-McKay Mfg. Co. 94
Sterling Engine Co. 74
Sterling Engine Co. page 4 of Supplement
Sturtevant (B. F.) Co. 5-Back Cover

T

Tams, Lemoine & Crane 64

Thermex Silencer Works 53
Thomas & Co., W. E. 72
Thompson, Lawrence M. 62
Tiebout, W. & J. 60
Times Square Auto Co. 72
Toppan Boat Co. 90
Torrey Roller Bushing Works 74
Trebert (H. L. F.) Engine Works 93
Trimount Rotary Power Co. 74
Tuttle Motor Co. 94

U

U. S. Light & Heating Co., The 74
Universal Machine Co. 93
Universal Motor Boat Supply Co. 92
Universal Safety Mattress Co. 92

V

Valentine & Co. 72
Van Blerck Motor Co. 61
Vim Motor Co. 65
Viper Co., The, Ltd. 82
Vulcan Engine Works 89

W

Waterbury Welding Co. 74
Water Craft Co., The 80
Waterman Marine Motor Co. 82
Watkins Motor Co., The 74
Watts, J. Murray 64
Weckler Boat Co. 60
Wells, Theodore D. 72
Whitaker, Morris M. 60
Whittelsey & Whittelsey 60
Wicker-Kraft Co. 72
Wilcox, Crittenden & Co., Inc. 93
Willis Co., E. J. 92
Wilmarth & Morman 72
Winton Gas Engine & Mfg. Co. 75
Wisconsin Mach. & Mfg. Co. 76
Wolverine Lubricants Co. 72
Wolverine Motor Works 82
Wonder Mfg. Co. 62
Wright Engine Co., C. T. 80

Y

Yankee Co., The 72
Youngs, Wm. P. & Bros. 74

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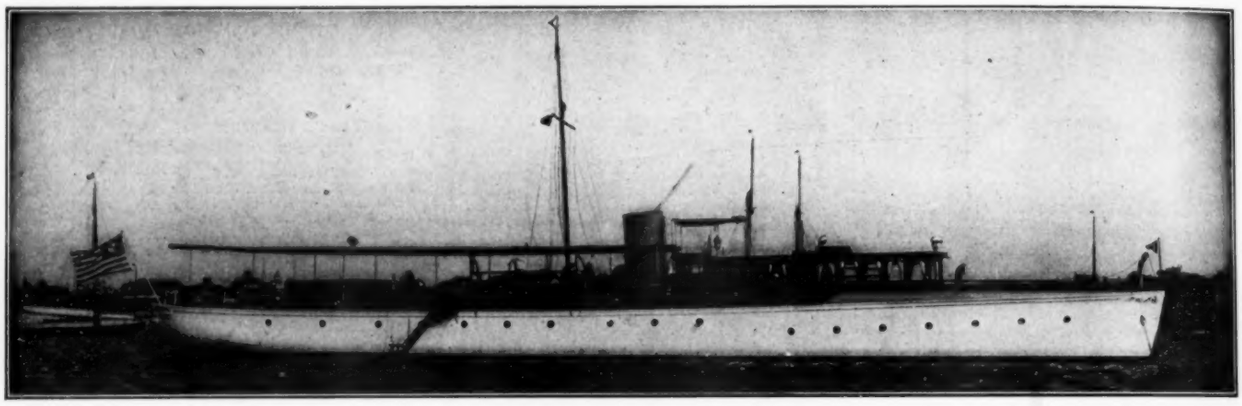

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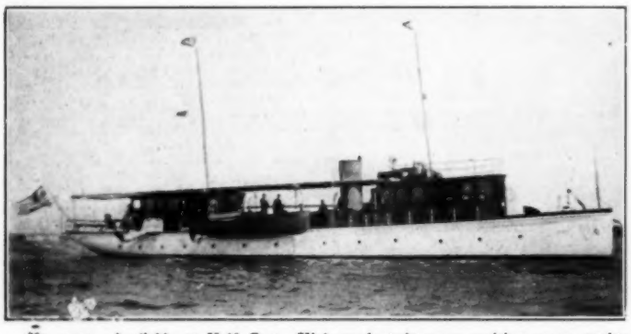
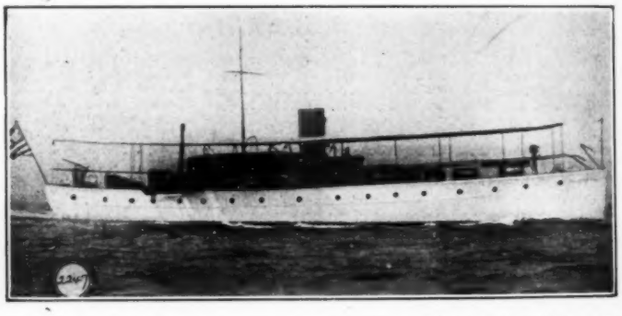
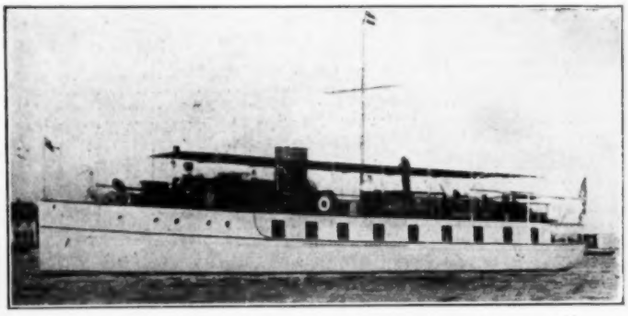


No. 2092.—Available at Half Cost.—High grade twin-screw cruising power yacht; 98 x 16 x 5.6 ft. Built 1910. Speed 13 miles; two 75-90 H. P. 6 cyl. Standard motors. Excellent accommodation. Handsomely finished and furnished. Cox & Stevens, 15 William Street, New York.



No. 2247.—For Sale at Low Figure.—Practically new flush deck cruising power yacht; 90 x 15.3 x 4.9 ft. Speed 13-14 miles. Two 60-75 H. P., 6 cyl. motors. Three staterooms, main and dining saloons, bath, extra toilet rooms, electric lights, etc. Exceptionally able craft. Cox & Stevens, 15 William St., New York.



No. 1662.—For Sale or Charter.—Modern twin-screw power houseboat; 90 x 17 x 3.5 ft. Built 1911. Speed 10-12 miles. Four staterooms, large saloon, two bathrooms, electric lights, etc. Price attractive. Cox & Stevens, 15 William St., New York.

No. 1387.—In commission.—Attractive twin-screw gasoline cruiser; 65 x 11.6 x 4.3 ft. Built 1911. Speed 13-14 miles; two 20th Century motors. Large accommodation, includes dining saloon forward, two double staterooms and bathroom aft. Electric lights. Handsomely finished and furnished. Very desirable modern craft. Price low for quick sale. Cox & Stevens, 15 William Street, New York.

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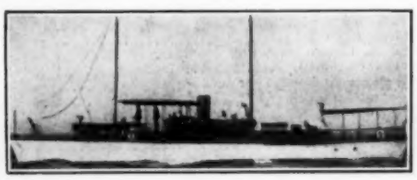
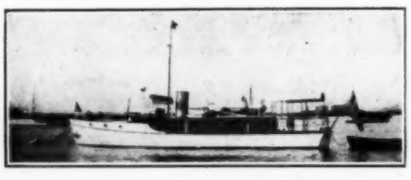
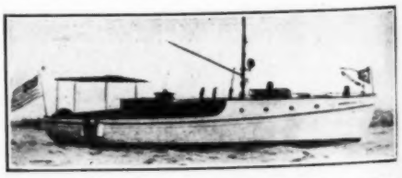


No. 372.—Bargain.—Cruising power yacht; 85 x 14 x 4.6 ft. Speed 12 miles; 100 H. P. 20th Century motor. Large accommodation. Mahogany finish throughout. In commission. Excellent opportunity. Cox & Stevens, 15 William St., New York.



No. 1895.—For Sale.—Bridge deck cruiser; 50 x 10 x 3.3 ft. Speed 12-14 miles; 45-65 H. P. 6 cyl. Sterling motor. Double stateroom, saloon, electric lights, etc. Price low. Cox & Stevens, 15 William St., New York.



No. 2307.—For Sale.—Raised deck cruiser, 40 x 9.6 x 3.6 ft. draught. Murray & Tregurtha outfit, built 1909; 35 H. P. motor; speed 10 miles. Roomy saloon containing four berths, toilet room, galley, etc. Electric lights. Sacrifice for quick sale. Cox & Stevens, 15 William St., New York.

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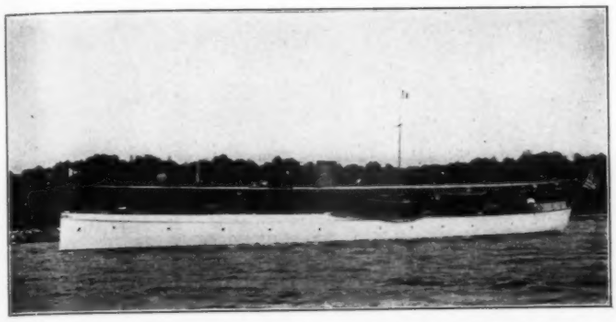
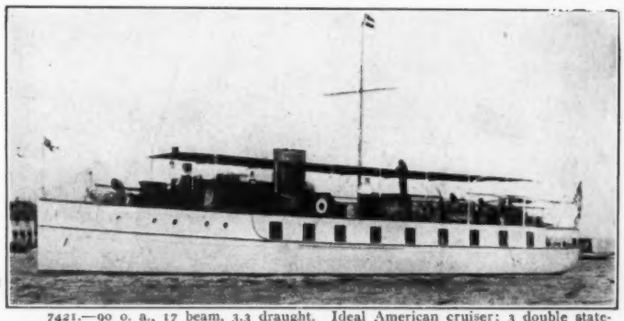
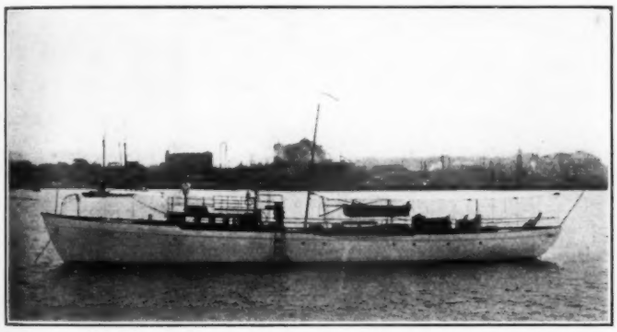


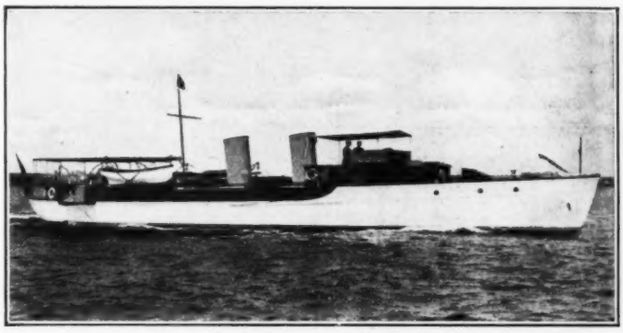
7183.—112 ft. twin-screw Lawley cruiser; all modern conveniences; speed 14 knots; very low price. Stanley M. Seaman, 220 Broadway, New York.



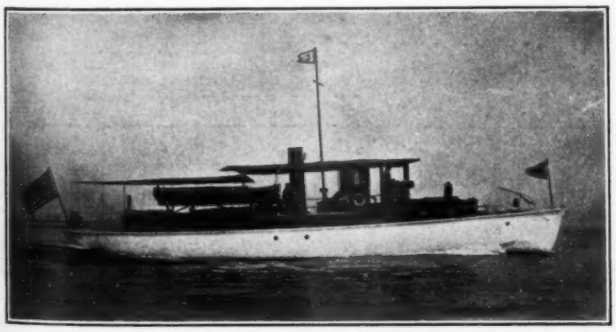
7421.—90 o. a., 17 beam, 3.3 draught. Ideal American cruiser; 3 double staterooms; 2 baths; hot water heat; luxuriously appointed; cost $30,000. Very low price. Stanley M. Seaman, 220 Broadway, New York.



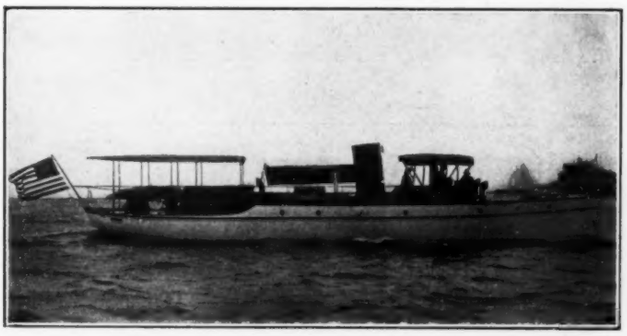
7439.—96 ft. twin-screw Lawley coast cruiser; 3 staterooms; bath; two 50-65 Standards; complete. Low price. Stanley M. Seaman, 220 Broadway, New York.



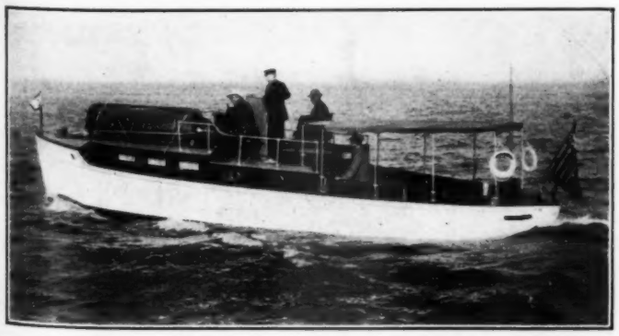
7447.—90 ft. twin-screw cruiser; speed 13 knots; finest boat of character extant. Stanley M. Seaman, 220 Broadway, New York.



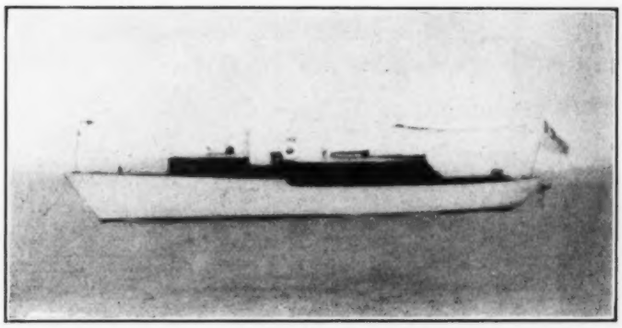
7430.—68 x 14 x 3½; 3 staterooms; two 25 Standards; perfect condition. Stanley M. Seaman, 220 Broadway, New York.



7131.—60 feet; launched 1912; stateroom; saloon; 100 Sterling; speed 14 miles; electric lights; very able sea boat; first class condition. Stanley M. Seaman, 220 Broadway, New York.



6749.—40 ft. cruiser; berths 5; 30-45 Sterling; new 1912; speed 11¼ miles; complete cruising inventory; about $3,500 spent on boat since 1911 in permanent improvements; whole outfit in perfect condition—good as new; enjoys excellent racing record. Low price. Stanley M. Seaman, 220 Broadway, New York.



7111.—45 ft. cruiser; stateroom; saloon; electric lights; perfect condition. Stanley M. Seaman, 220 Broadway, New York.

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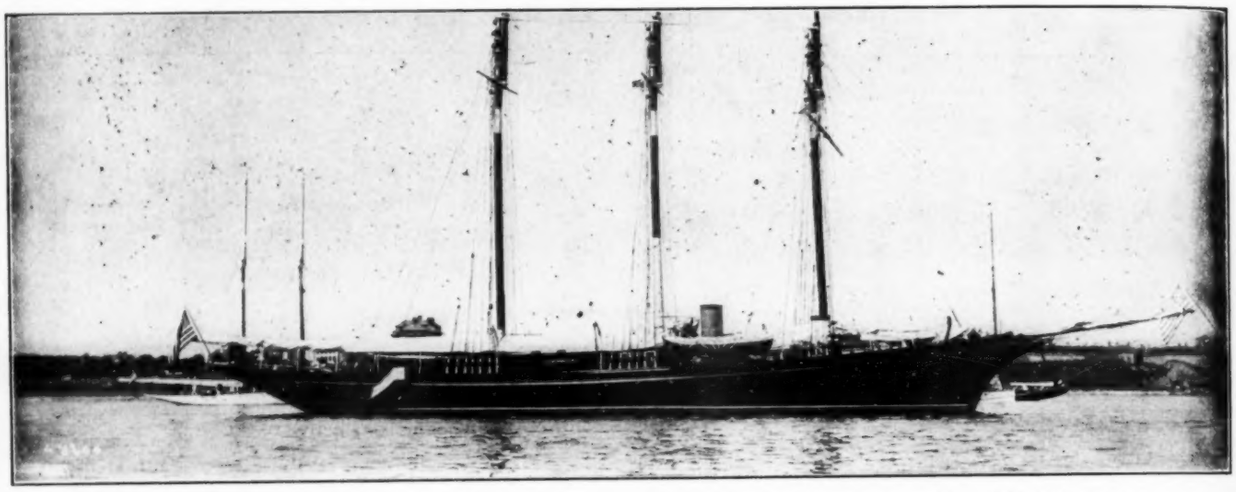
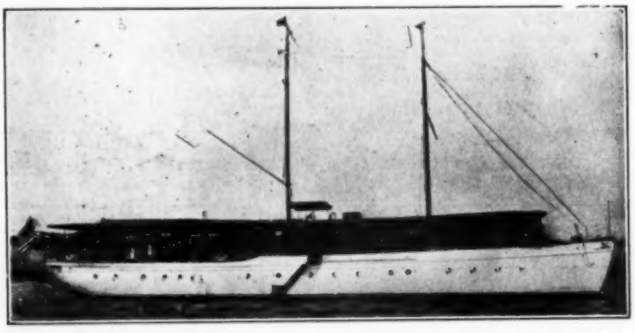
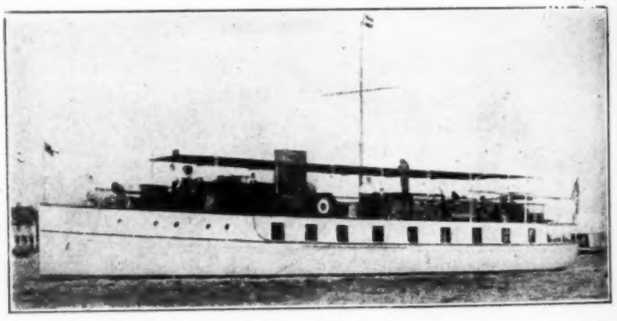


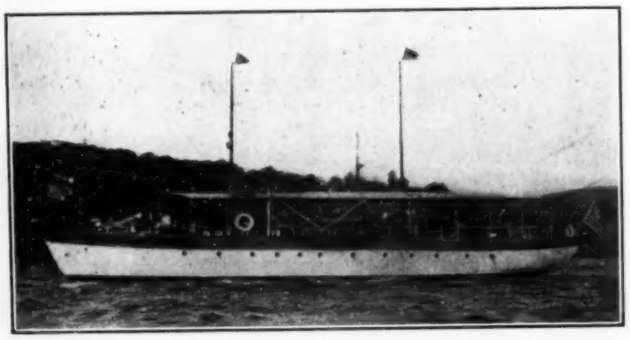
No. 638.—Steam auxiliary yacht, steel; 198 ft.; recent build; all modern appliances; ideal vessel for extensive cruising. Offered by an estate.



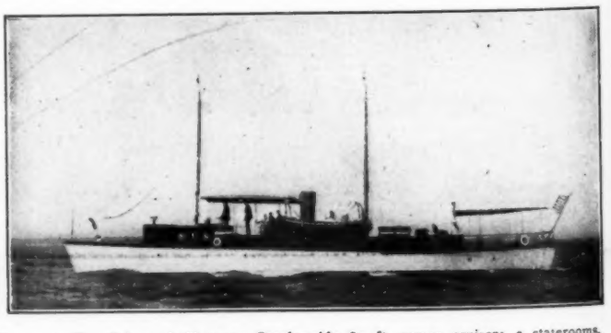
No. 1723.—Able Southern cruiser, 95 ft. x 17 ft. x 4 ft.; recent build; all modern improvements.



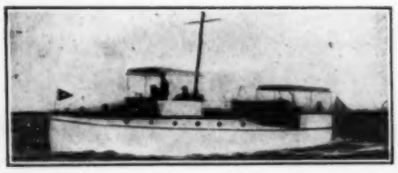
No. 1745.—Combination cruiser and houseboat, 90 ft. x 17 ft. x 3 ft. 4 in.; twin screw; very able and finely appointed.



No. 1399.—Flush deck cruiser, 75 x 15; saloon, two staterooms; 75 H. P. Standard.

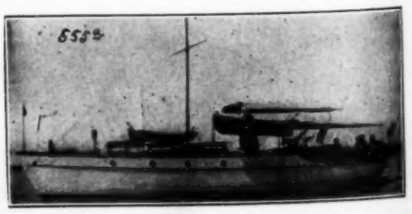


No. 923.—For Sale and Charter.—Comfortable 85 ft. power cruiser; 3 staterooms, bath, etc.; 6 cylinder 20th Century motor installed 1911.



No. 1904.—Raised deck cruiser, with forward bridge; 46 ft. x 10.6 ft.; built 1911; 25 H. P. motor. Attractive figure.

No. 1693.—Bridge deck cruiser, 50 ft. x 11 ft.; Century motor.



No. 942.—Desirable raised deck cruiser, 60 ft. x 12 ft.; attractive figure; 50 H. P. Standard motor.

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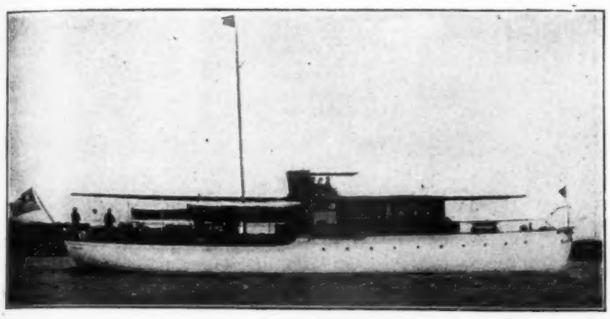
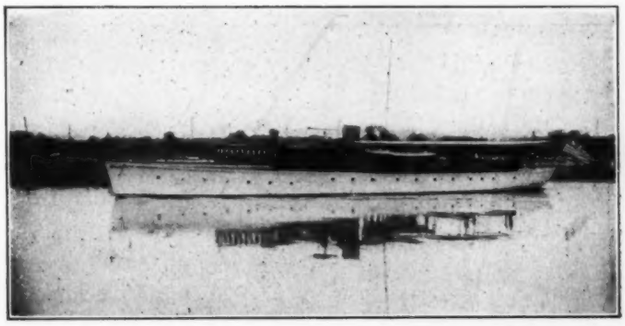


No. 7877.—For Sale—In commission.—Price attractive, modern raised deck cruiser 90 ft. x 17 ft. x 3 ft. 6 in. draft. Built by Lawley, 1909; 2-60 H. P. Craig motors, saloon, three good size staterooms.



No. 7999.—For sale—Charter.—Fast twin screw gasolene cruiser; speed 20 miles; Craig motors.
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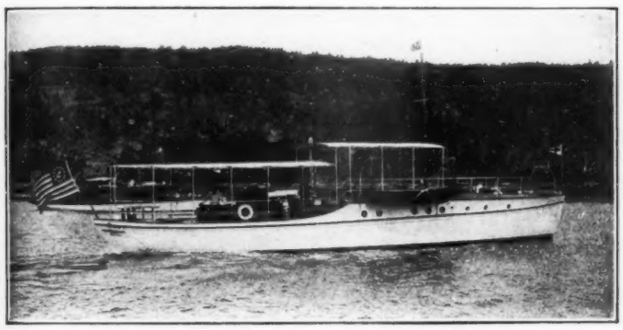

No. 7488.—For Sale.—65-ft. modern cruiser. Twin screw. Good quarters, including bath; ideal for Southern and Northern cruising; price attractive.
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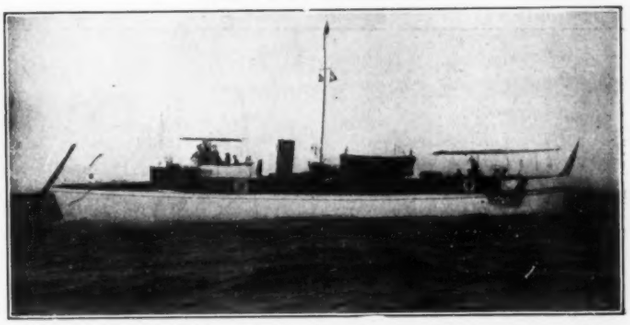

No. 7356.—For Sale—Charter.—80 ft. motor cruiser; 20th Century motor; speed 12 miles.
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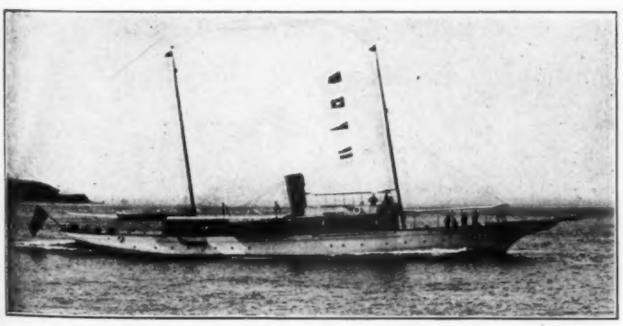

No. 18.—Sale or Charter.—Desirable 145 ft. steam yacht; attractively arranged; in excellent shape.
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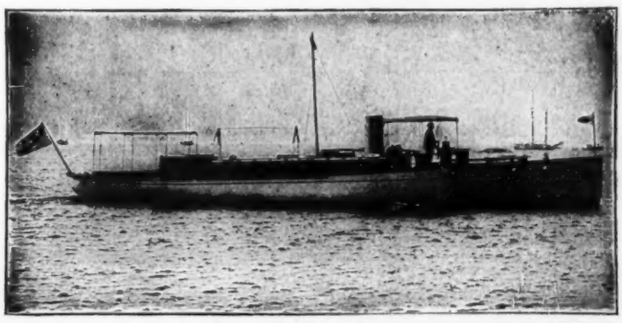

No. 7538.—Sale.—Bargain: 70 ft. raised deck cruiser built 1909; Craig motor; speed, 13½ miles.
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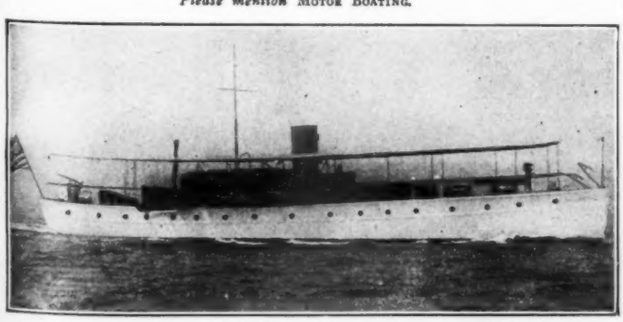

No. 8445.—For Sale.—At low figure practically new 90 ft. flush deck cruiser; 2-60/75; 6-cylinder motors; speed 13-14 miles; 3 staterooms, 2 saloons, bath, 2 W. Cs., electric light, etc.
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No. 7373.—For Sale.—Attractive houseboat 77 ft. x 18 ft. 6 in. x 2 ft. 6 in.; 3 staterooms, 2 baths, saloon, 20th Century motors, electric lights and heated.
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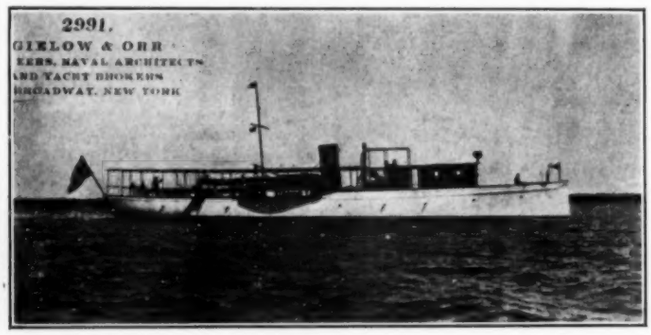


No. 2991.—Sale. 112 foot twin-screw motor yacht, Lawley production; Craig engines, 14-16 miles; every convenience; fine seaboat; reasonable.
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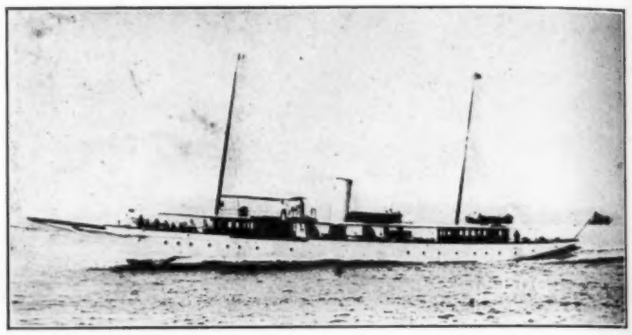

No. 506.—Bargain—Single-screw, 180 ft.; steel; 21 miles; fine accommodations. Two deck houses; in commission; fully found; fine order.
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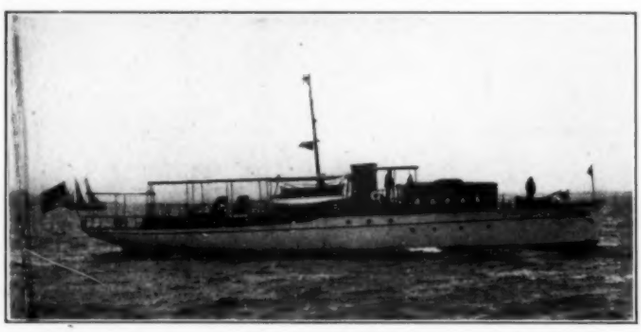

No. 3910.—Sale or Charter.—Twin-screw, 90 x 13 x 4 ft.; 12 knots; two 6 cylinder Sterling motors; excellent accommodations; large deck space.
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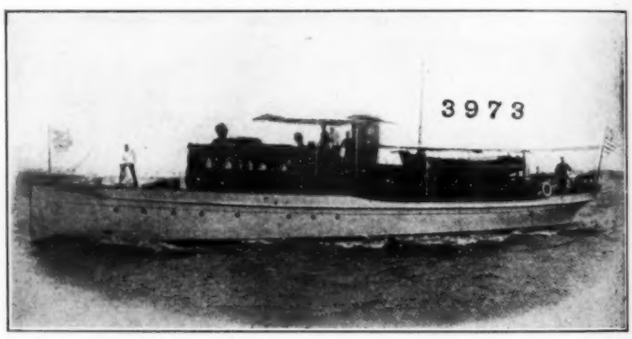
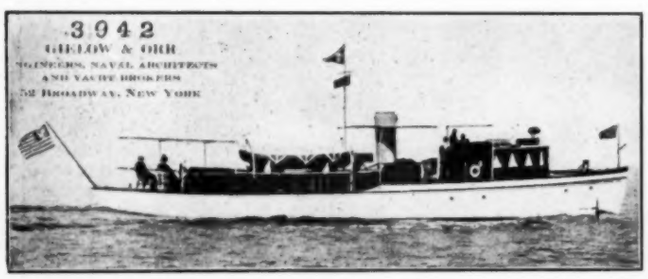



No. 3973.—Sale; Twin-screw; 82 ft. x 14 ft. 6 in. x 2 ft. 6 in.; built 1912; designed especially for shoal water conditions; every convenience; electric lights two 6-cylinder Sterling motors. Reasonable.




No. 3942.—Twin-screw; 78 x 14 x 3.6 ft. draught; copper sheathed on bottom; ideal for southern service; sleeps six in owner's party; two 6-cylinder Standard motors; electric lights. Low price.
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No. 3934.—Sale. Midship deck cruiser 60 x 11 x 3 ft. 6 in.; built 1912; speed 12 knots; 100 horse Sterling engine; high class throughout.
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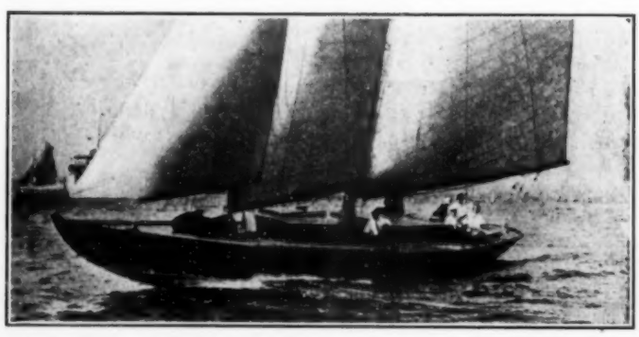

No. 4189.—Sale. Stamford one design schooner; 62 x 40 x 11 x 7 ft. draught; built 1913; very fully found; reasonable.
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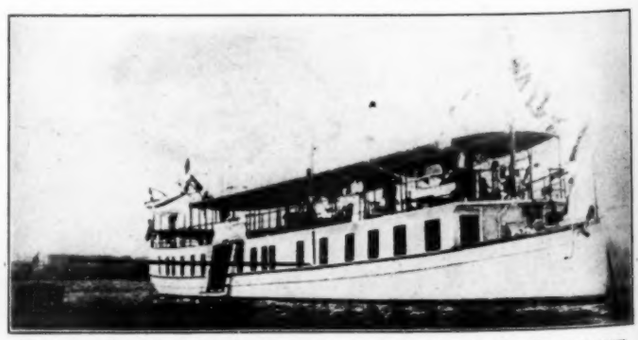

No. 1055.—Exceptional bargain. Twin-screw, 106 x 20-6 x 3-4 ft.; fine stateroom and toilet accommodations; very satisfactory type of boat. Water tanks 5,000 gallons, double ordinary capacity; hot water heating plant; independent electric plant; fully equipped.

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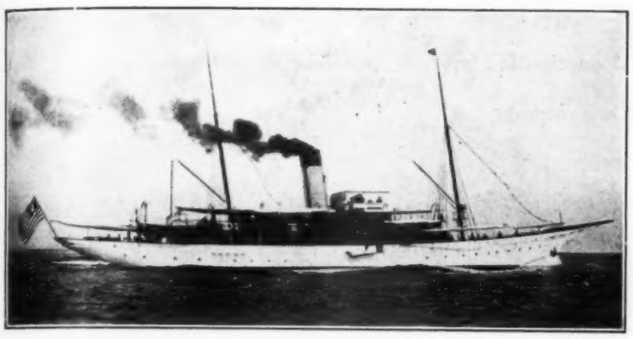
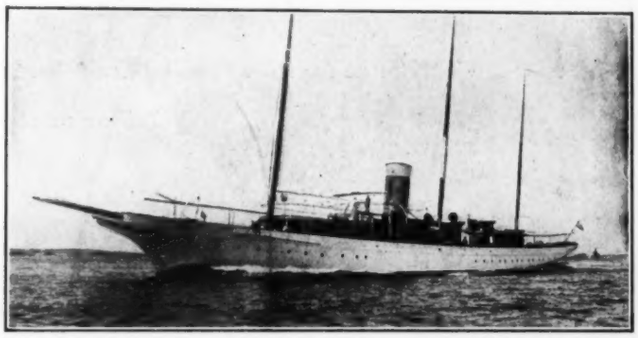
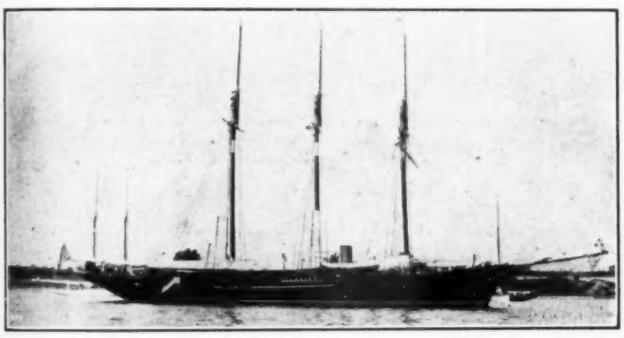


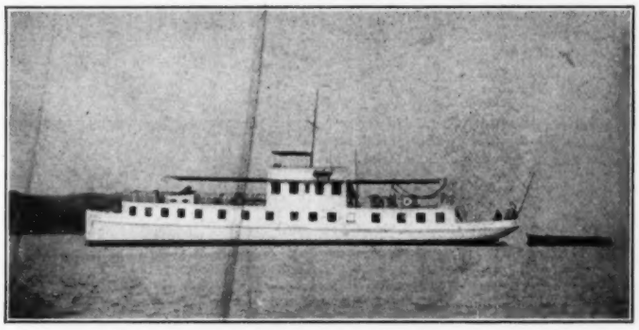
No. 3904.—200 ft. sea-going steam yacht. Accommodations aft. Reasonable price.
*Please mention* MOTOR BOATING.



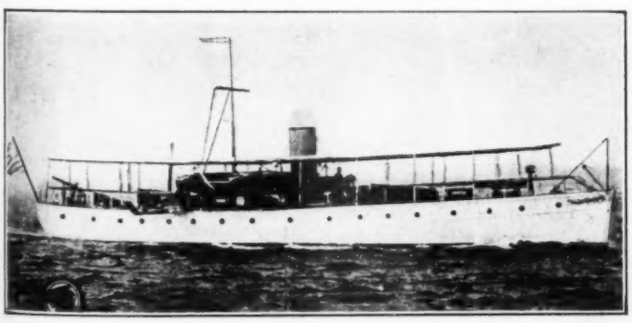
No. 49.—225 ft. steel steam yacht; the fastest of the large yachts; splendid condition; might be chartered.



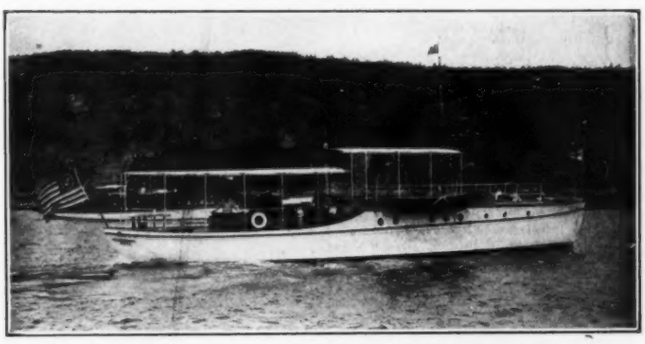
No. 5133.—Finest steam auxiliary afloat; good as new. Length 200 ft.
*Please mention* MOTOR BOATING.



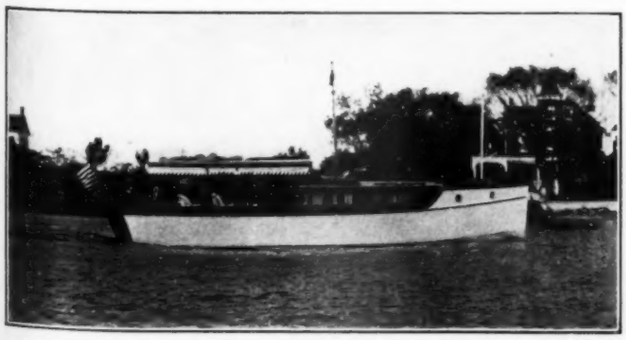
No. 5831.—110 ft. seagoing house yacht; speed 12 miles an hour; exceptionally accommodations. Sale or charter.
*Please mention* MOTOR BOATING.



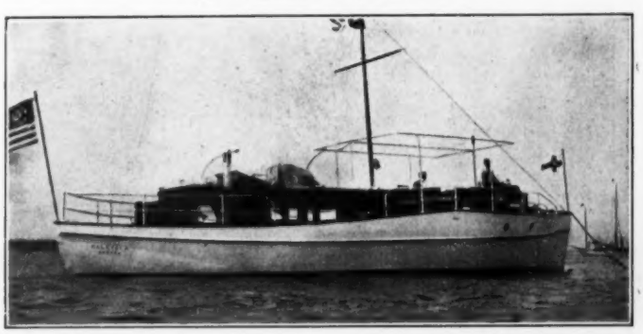
No. 2601.—90 ft. flush deck cruiser; twin screw. Has cruised to Cuba. Sale or charter.
*Please mention* MOTOR BOATING.



No. 4624.—65 ft. raised deck cruiser; good accommodations including bath; twin screw; suitable for southern waters.
*Please mention* MOTOR BOATING.



No. 6519.—36 ft. raised deck and trunk cabin gasoline cruiser; exceptionally good boat at a low price.
*Please mention* MOTOR BOATING.



No. 6288.—55 ft. gasoline cruiser. Good as new. Well-known heavy duty engine. Light draft.
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**No. 90.—Peter Pan, Sr., day cruiser, 40 x 7.9; magnificent mahogany; twin screw; two 50 H. P. Reliance-Continental motors. Every appointment. Splendid sea boat. Speed 20 miles. Equal brand new.**

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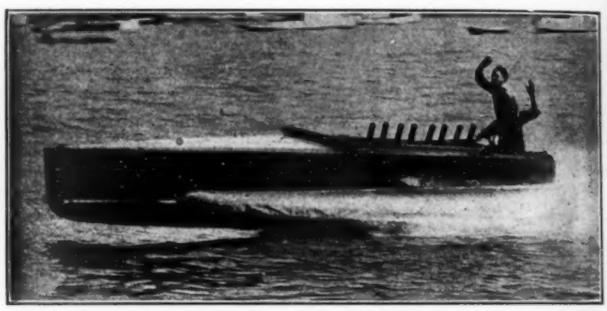
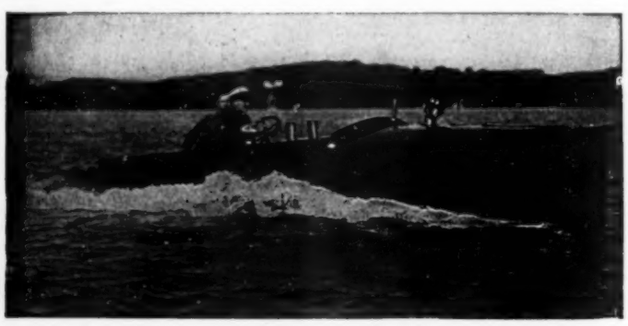
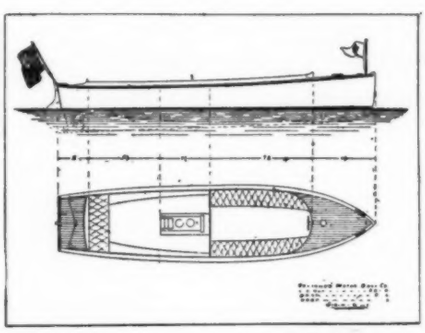


**No. 93.—Little Peter Pan, 20 ft.; 4 cyl. 50/60 Mercury motor, brand new; speed 35 miles. Bargain.**

*Please mention* MOTOR BOATING.

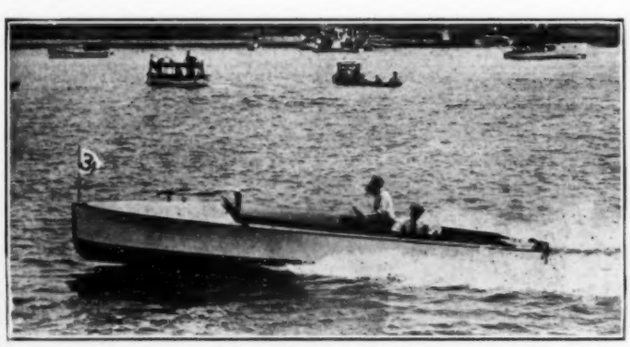


**No. 87.—Duplicate "Peter Pan II"—28-footer. All mahogany, sides painted white, rest natural finish; 35 H. P. Mercury motor; rear starter; ran one season. Overhauled. Prime condition.** ***Great bargain.***

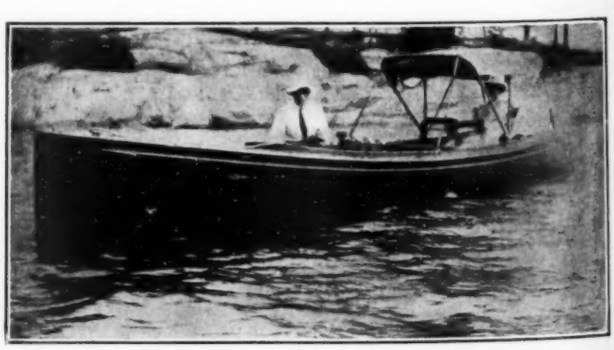


**No. 92.—Reliance family launch; 23 ft. long, 5 ft. 6 in. beam; carries ten in comfort; 2 cyl. Ferro motor, 11 H. P.; speed 12 miles; brand new $725.**

*Please mention* MOTOR BOATING.



**No. 94.—Cinderella. Speed sensation 1913. 26 x 5.2; 4 cyl. Van Blerck motor; 75 H. P. latest Reliance model. Speed marvel; 33 miles per hour; carries six perfect comfort; fully equipped; equal brand new. Bargain.**



**No. 95.—25 x 5; 3 cyl.; 15 H. P. Fairbanks motor. Fine running order. Bargain, $400.00. Thoroughly refinished.**

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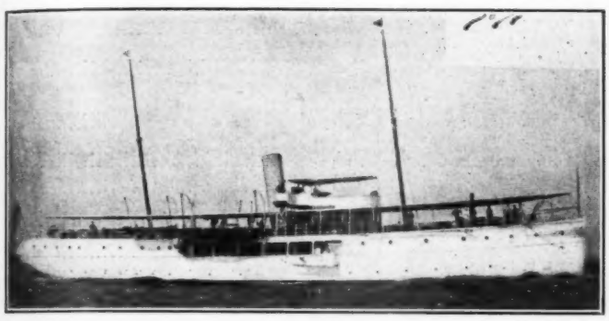
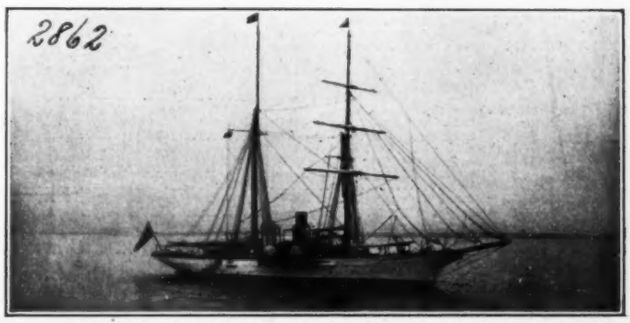
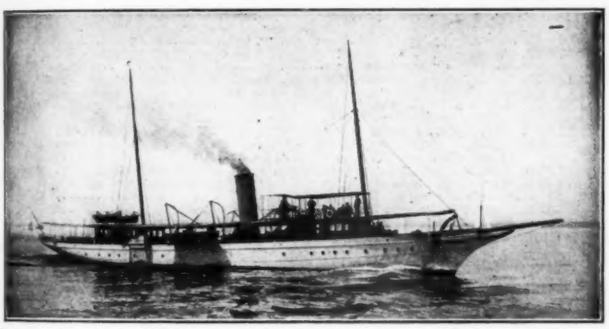


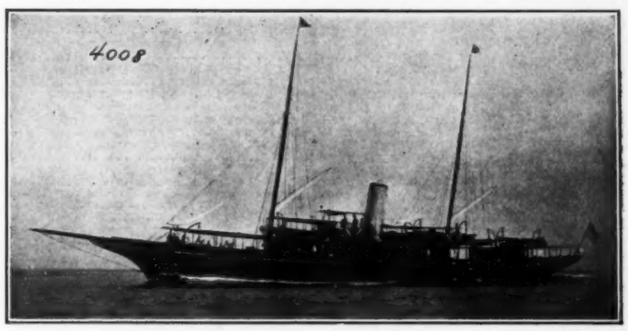
No. 3835.—175 ft. Ocean-going steam yacht. Nine large staterooms; speed 16 miles.



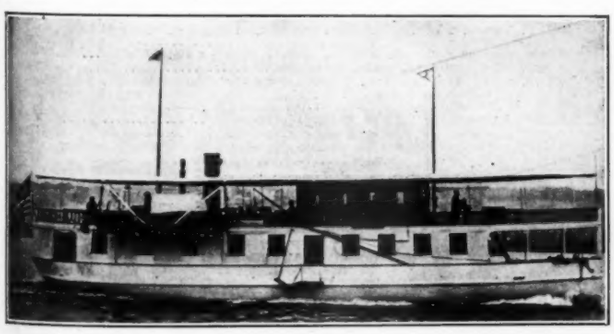

No. 2862.—Steam auxiliary; steel; 170 ft.; splendid accommodation. Ideal vessel for extensive cruising.



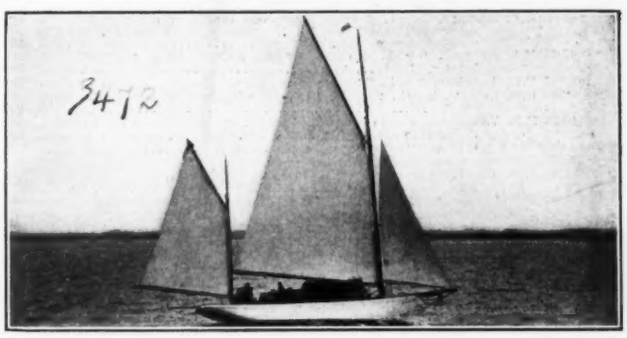
No. 3725.—180 ft. steam; splendid accommodation; perfect condition; speed 20 knots; price very attractive.



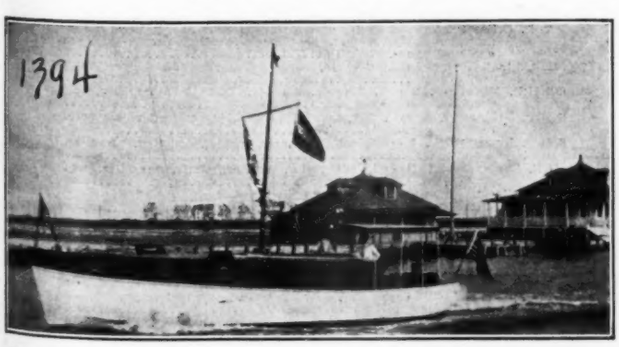

No. 4008.—200 ft. twin-screw, ocean-going steam yacht; speed 16 knots; handsomely appointed; splendid accommodation.



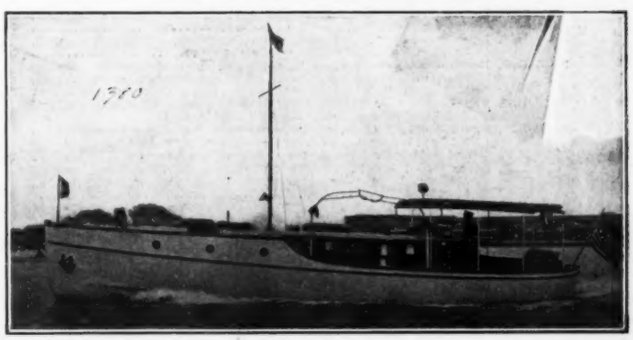
No. 3843.—Sale or Charter.—Twin screw house boat; 85 ft.; splendid accommodation; speed 10 miles. Price attractive.




No. 3472.—40 ft. auxiliary centreboard yawl; sleeps five.




No. 1394.—40 foot cruiser; two cabins: sleeps four; 16 H. P. Standard; speed 11 miles.




No. 1380.—43 foot cruiser; stateroom and cabin; sleeps 4 to 6; 40 H. P. Sterling; speed 11 miles.

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| DESCRIPTION. | PRICE. |
|---|---|
| 300 H.P. Standard | $2500 |
| 300 H.P. Standard, perfect condition, 6 cyl., 12" x 14", shaft propeller, air starting and reversing | 3000 |
| 175 H.P. Brownell, 8 cyl., 4 cycle, 1908, A-1 condition, electrical outfit, carburetor, magneto and gear, 6½ x 6, 900 R. P. M. | 1000 |
| 150-180 H.P. Sterling, 8 cyl., 4 cycle, high speed racer, 1912, perfect condition, shaft, propeller, model L Schebler carburetor, Bosch magneto, reverse gear, 1½ to 1 gear box, 5½ x 6½, weight 1400 lbs. | 2800 |
| 130 H.P. Jager, 6 cyl., 4 cycle, type N, 400 R. P. M., 8¾ x 12, new 1910, 7200 lbs., 25' shaft and propeller | 2500 |
| Two 130 H.P. Jagers twin screw, 6 cyl., 4 cycle, type N, 400 R. P. M., 8¾ x 12, 1910, brand new, full outfit 25' shaft and propeller, weight 7200 lbs. each, for the pair | 5000 |
| 120 H.P. Pope-Toledo, 4 cyl., 4 cycle, 7½ x 6½ | 700 |
| 120 H.P. Twentieth Century, 6 cyl., 4 cycle, 9 x 10, gear, magneto, carburetor, coil, propeller, etc., less shaft, 1907, rebuilt and like new, A-1 | 2800 |
| 105 H.P. Peerless, high speed, 4 cyl., 4 cycle, 6½ x 6½, engine only | 550 |
| 100 H.P. Anderson, 9¼ x 11, 4 cycle, new | 2000 |
| 100 H.P. Standard, 6 cyl., 4 cycle, rebuilt, in excellent condition, 8 x 10, 40 x 52 three-blade propeller, carburetor, Bosch magneto, magnetic make-and-break, air starting and reversing | 1500 |
| 100 H.P. Globe, 4 cyl., 8¼ x 11, with complete equipment including reverse gear, 48" three-blade propeller, bronze shaft, etc. | 1500 |
| 100-125 H.P. Emerson, 6 cyl., 2 cycle, high speed, Atwater Kent ignition | 500 |
| 90 H.P. Truscott, 6 cyl., 6 x 7, high speed | 900 |
| 75 H.P. Trebert, 4 cyl., 4 cycle, new, Bosch magneto, Dual system, Schebler carburetor, Paragon gear, 6½x8 | 1000 |
| 60 H.P. Darracq, 8 cyl., 4 cycle, good condition, 8' shaft, 3-blade wheel, 2 Schebler carburetors, jump spark, 1200 R. P. M. | 350 |
| 60 H.P. Peerless, 6 cyl., 4 cycle, 1909, rebuilt in 1912 and in perfect condition, bronze shaft and wheel, coil, carburetor, Eiseman magneto, Paragon gear, muffler, 4½x5½ | 850 |
| 60 H.P. Standard Auto-marine, 6 cyl., 6 x 6½, perfect condition, with complete equipment | 1250 |
| 60 H.P. Rutenber, 6 cyl., 4 cycle, 4¾ x 5, weight about 500 lbs., complete, carburetor, one-way clutch, aluminum base | 450 |
| 60-70 H.P. American-British, new, never uncrated, 5x4¾, 6 cyl., Splitdorf dual magneto and coil, Stromberg carburetor, Paragon gear | $1,140 |
| Two 50 H.P. Speedways, 6 cyl., 4 cycle, 6 x 6, weight each 2300 lbs., 1904 model, splendid condition, rebuilt, reverse gear, magneto, coil, shaft, propeller, 28 x 30, 3-blade, stuffing-box, stern bearing, muffler, J. S., twin screw outfit, each | 1000 |
| 50 H.P. Automatic, 4 cyl., 4 cycle, 7½ x 9, coil, carburetor, shaft, propeller, stuffing-box, stern bearing, reverse gear, muffler | 950 |
| 50-65 H.P. Standard, 4 cyl., 4 cycle, reverse gear, magneto, 8 x 10 | 900 |
| 50-60 H.P. Rutenber, 6 cyl., 4 cycle, 1910, 11' bronze shaft, 18 x 38 three-blade propeller, coil: Bosch magneto, Schebler carburetor, 4½ x 5, jump spark, 900 R. P. M. | 400 |
| 50 H.P. Rinek Aero, 8 cyl., 4 cycle, V-type, new 1912, Schebler carburetor, Bosch magneto, 4 x 4, 325 lbs. | 700 |
| 50 H.P. Muscatine, 4 cyl., 2 cycle, 1911, good condition, 4 Acorn carburetors, coil, Bosch H. T. magneto, 5 x 5, weight 400 lbs., one-way clutch | 450 |
| 50 H.P. Globe, 4 cyl., 4 cycle, 8¼ x 10, with reverse gear and outfit, less shaft, stuffing-box and stern bearing | 1200 |
| 45-65 H.P. Sterling, 6 cyl., high speed, Model B, reverse gear, Bosch magneto, reg. starter, propeller outfit, aluminum base, double ignition, 1912 | 1150 |
| Twin 45-65 H.P. Sterling engines, model B, 6 cyl., 1912, A-1 condition, iron base, reverse gear, Bosch Dual magnetos, propellers, each | 1,200 |
| 40-60 H.P. Elbridge, 4 cyl., 2 cycle, 1910, fine condition, Schebler Model L carburetor, Bosch D. U. 4, magneto, high tension, 4½ x 5, aluminum base, practically new | 350 |
| 45-65 H.P. Monarch, 6 cyl., 4 cycle, reverse gear, 3 blade propeller, carburetor, 5 x 6 | 700 |
| 45 H.P. American, 3 cyl., 2 cycle, jump, 6½ x 7 | 250 |
| 40-60 H.P. Roberts, 6 cyl., 2 cycle, 1910, 4½ x 5, electrical equipment, jump spark | 600 |
| 40-50 H.P. Van Epps, 4 cyl., 2 cycle, 1000 R. P. M., Schebler carburetor, Splitdorf magneto, 5 x 5, 270 lbs., propeller, all brand new | 550 |
| Clutch with Van Epps, extra | 35 |
| 40-50 H.P. American- British, 4 cyl., 4 cycle, 1900, Kingston carburetor | 500 |
| 40 H.P. Van Epps, 4 cyl., 2 cycle, 1912, like new, coil, Holley carburetor, propeller, steel shaft, 5 x 5, weight 400 lbs. | 400 |
| 40 H.P. Trebert 4 cyl., 4 cycle, 1912, coil, carburetor, Remy magneto, 5 x 5 | 400 |
| 40 H.P. American-British, 4 cyl., 4 cycle, 5 x4¾, 1,000 R. P. M., coil, propeller, carburetor, gear, new, 550 lbs. | 600 |
| 40 H.P. Peerless 4 cyl., 4 cycle, 1910, A-1 condition, Eiseman coil and magneto (high tension), carburetor, Paragon gear, 4⅛ x 5½, 570 lbs., aluminum base | 500 |
| 40 H.P. Roberts, 4 cyl., 2 cycle, 1912, nearly new, coil, carburetor, Bosch magneto | 450 |
| 38 H.P. Brownell-Trebert, 6 cyl., 4 cycle, 1911, A-1 condition, coil, Schebler carburetor, Gies gear, 4 x 5 | 425 |
| 35 H.P. Globe, 4 cyl., latest model | 1200 |
| 35 H.P. Giant, 4 cyl., 2 cycle, new carburetor coil | 400 |
| 32 H.P. Evansville, 4 cyl., 4 cycle 1911, steel shaft, 30" 3-blade propeller, coil, Schebler carburetor, reverse gear, 6" bore, 6¼" stroke | 600 |
| 32 H.P. Daimler Silent Knight, 4 cyl., 4 cycle, 1910 Remey, magneto, Schebler carburetor, 4⅛ x 5½ | 550 |
| 32-40 H.P. Emerson, 4 cyl., 2 cycle, aluminum base, Webster magneto, Paragon gear, propeller, coil carburetor | 350 |
| 30-40 H.P. Reeves-Graef, 4 cyl., 4 cycle, 6¼ x 8½, splendid condition, reverse gear, coil, carburetor, shaft, wheel, stuffing-box, stern bearing, 12' shaft, Motsinger magneto | 850 |
| 30 H.P. Van Epps 3 cyl., 2 cycle, 1913, used 3 weeks only, like new, 5 x 5, weight 300 lbs., coil, Rayfield carburetor | 300 |
| 30 H.P. Davis, 4 cyl., 4 cycle, with reverse gear, coil, Schebler carburetor, muffler, magneto, shaft, propeller, stuffing-box and rear starter | 250 |
| 28-30 H.P. Columbia, 4 cyl., 4 cycle, 4¼ x 4½, coil, carburetor, magneto | 200 |
| 28 H.P. Lackawanna, 4 cyl., 2 cycle, 1911 model, good condition, Orswell ignition, 2 Schebler carburetors, 4½ x 4½, weight 475 lbs., aluminum base | 200 |
| 28 H..P Truscott, 4 cyl., 4 cycle, 1910, first class condition, coil, carburetor, reverse gear, 6 x 7, weight 3,200 lbs. | 550 |
| 26 H.P. Eddystone-Globe, 4 cyl., 2 cycle, gear, Schebler carburetor, propeller and coil | 350 |
| 25 H.P. Globe, 8¼ x 10, 2 cyl. | 750 |
| 25 H.P. Lozier, 1907, 4 cyl., 5 x 6 | 375 |
| 25 H.P. Hudson, 2 cyl., 2 cycle, Atwater-Kent ignition, Kingston carburetor, gear, shaft, stuffing-boxes (2), muffler, 7 x 9, 400 R. P. M., 2700 lbs. | 300 |
| 25 H.P. Ferro, 3 cyl., 2 cycle, 5 x 5, carburetor, reverse gear, Perfex ignition, nearly new | 300 |

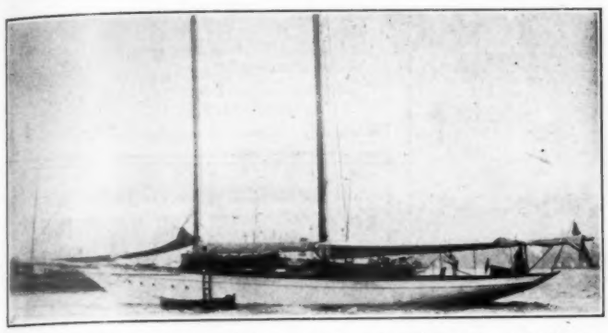
| DESCRIPTION. | PRICE. |
|---|---|
| 25 H.P. Eagle, 4 cyl., 1911, Paragon reverse gear, K. W. magneto and complete equipment, excepting shaft | 350 |
| 24-32 H.P. Eddystone-Globe, 5⅛ x 5, 4 cyl., magneto outfit, gear | $450 |
| 24 H.P. Gardner, 4 cyl., 4 cycle, 5 x 5½, Schebler carburetor, jump spark, spark coil | 200 |
| 24 H.P. Van Epps, 4 cyl., 2 cycle, 1910, 3 blade 20" wheel, Heinz coil, Schebler carburetor, 4⅜ x 4½ | 300 |
| 23 H.P. Graef, 1 cyl., 4 cycle, 8 x 10 | 200 |
| 20-25 H.P. Daimler, 4 cyl., 4 cycle, 4⅝ x 6½, reverse gear, coil, carburetor, shaft and propeller | 350 |
| 20 H.P. Slitman & Pitt, 2 carburetors, spark plugs, oil cups | 200 |
| 20 H.P. Scripps, 4 cyl., 4 cycle, coil, carburetor, 4½ x 4½ | 325 |
| 20 H.P. Sintz, heavy duty, Paragon gear, 1⅛" shaft, 24" 3-blade propeller and stuffing box, coil, carburetor, muffler, 6½ x 7 | 250 |
| 18 H.P. Globe, 2 cyl., 4 cycle, 6½ x 8½ | 500 |
| 17 H.P. Brockway, 2 cyl., 2 cycle, shaft, propeller, reverse gear, carburetor, good condition | 200 |
| 16-25 H.P. Murray-Tregurtha, 2 cyl., 4 cycle, make-and-break carburetor, reverse gear, 7⅜" bore, 11" stroke | 550 |
| 16 H.P. Daimler, 2 cyl., 6½ x 8, propeller and coil | 225 |
| 16 H.P. 4 cyl., 2 cycle Rochester, 4 x 4, 1910, fine condition, 17 x 25 three-blade wheel, coil, carburetor, muffler | 275 |
| 15 H.P. Ferro, 2 cyl., 2 cycle, full outfit, 5 x 5 | 200 |
| 15 H.P. Stamford, 2 cyl., electrical equipment | 100 |
| 15 H.P. Parker, 3 cyl., 2 cycle and outfit less shaft | 200 |
| 15 H.P. Fairbanks-Ferro, 2 cyl., 2 cycle, reverse gear, 12" bronze shaft, propeller, coil, carburetor | 215 |
| 15 H.P. Buffalo, 4 cyl., 4 cycle, coil, carburetor, coupling, 2 propellers | 175 |
| 15 H.P. Camden 2 cyl., 2 cycle, 5½ x 6, weight 500 lbs., coil, carburetor, muffler, steel shaft, bronze 2-blade wheel, 20", 2 stuffing boxes | 150 |
| 15 H.P. Eagle, 4 cyl., 2 cycle, model 4-B, rebuilt and like new, Joe's gear, Connecticut coil, Schebler carburetor, propeller, Vapo muffler, but no shaft or stuffing-box | 225 |
| 12-15 H.P. Sterling Model C—5½ x 7, 1912, A-1 condition, with reverse gear, propeller outfit complete | 475 |
| 12 H.P. Parker, 2 cyl., 2 cycle, 4½ x 4½, weight 475 lbs., good condition, 1910, mixing valve, coil | 200 |
| 12 H.P. Brennan, 2 cyl., 4 cycle, horizontal opposed, special model 7, brand new, carburetor, starting handle, spark plugs | 185 |
| 12 H.P. Clay, 2 cyl., 4 cycle, new 1913, with outfit, 5½ x 6½ | 375 |
| 12 H.P. White, 4 cyl., 4 cycle, coil, carburetor, 4¾ x 5, reverse gear, propeller, outfit | 275 |
| 12 H.P. T. & M., 2 cyl., 1910, jump spark, propeller, coil and carburetor | 200 |
| 12 H.P. Maxwell & Finch, 2 cyl., 2 cycle, 4¾ x 5½, shaft, propeller, coil, Schebler carburetor, reverse gear | 200 |
| 12 H.P. Tottenville, 2 cyl., 2 cycle, with shaft, propeller | 95 |
| 12 H.P. Dunn, 3 cyl., 4 cycle, vaporizer, coil, propeller | 110 |
| 12 H.P. Kermath, new, 1911, with carburetor, high tension dual magneto and coil | 150 |
| 10 H.P. Waltham-Orient, 2 cyl., 4 cycle, V-type, air-cooled with coil, carburetor, starting crank, spark plugs, Gies gear | 65 |
| 10 H.P. Mianus, single cyl., 2 cycle, 1912, A-1 condition, coil, carburetor, K-W magneto, 6⅜ x 7 | 180 |
| 10 H.P. Palmer, 2 cyl., 2 cycle, 4½ x 4½, excellent condition, shaft propeller, stuffing-box, coil, muffler, carburetor | 120 |
| 10-12 H.P. Van Epps, 2 cyl., 2 cycle, 1912, A-1 condition, 18" three-blade propeller, coil, Holley carburetor, 4½ x 4½ | 175 |
| 10-12 H.P. Wolverine, 2 cyl., 4 cycle, 5x5, weight 650 lbs., make-and-break and jump spark, Roper safety rev. propeller outfit, 7' 9" bronze shaft, coil, Schebler carburetor, 2 stuffing-boxes | 210 |
| 10 H.P. Mianus, 2 cyl., 1900, shaft, propeller, stuffing-box, coil, carburetor, muffler | 100 |
| 10 H.P. Springfield 2 cyl., 2 cycle, carburetor, 4½ x 4½, 315 lbs. | 95 |
| 10 H.P. Otto stationary, perfect condition | 200 |
| 10 H.P. Grand Rapids, 2 cyl., 2 cycle, 5 x 6, Schebler carburetor, No. 2 Ball reverse gear, J. S., 4' 1½" shaft and 22" three-blade propeller | 140 |
| 8-10 H.P. Lackawanna lighting outfit, Diehl dynamo | 350 |
| 8 H.P. Manhattan, 2 cyl., 4 cycle, carburetor | 45 |
| 8 H.P. Tuttle, 2 cyl., with reversible propeller outfit, coil and muffler, thoroughly overhauled | 125 |
| 8 H.P. Toquet, 2 cyl. | 85 |
| 8 H.P. Atlantic, 2 cyl., nearly new | 100 |
| 8 H.P. Uncle Sam, 2 cyl., 2 cycle, coil carburetor shaft, wheel, stuffing-box, muffler | 115 |
| 8 H.P. Uncle Sam, 2 cyl., 2 cycle, jump spark, carburetor, shaft, wheel, stuffing-box, muffler | 115 |
| 8 H.P. Fairbanks-Ferro, 2 cyl., 2 cycle, plugs, coil, carburetor, muffler (coupling) | 80 |
| 7 H.P. Fox, 2 cyl., 2 cycle, 3½x3½, weight 175 lbs., coil, carburetor, muffler | 60 |
| 7 H.P. Eagle, one cyl., 2 cycle, Schebler carburetor, coil, muffler, 5' shaft, 3-blade propeller, stuffing-box | 75 |
| 8 H.P. Barber, 2 cyl., 2 cycle, coil, carburetor, 1910, good as new | 175 |
| Two 7 H.P. Loziers, 1906, overhauled, A-1 condition, coil, carburetor, muffler, reversible propeller outfit, twin screw outfit, each | 85 |
| 7 H.P. Truscott, carburetor, propeller, muffler | 60 |
| 7. H.P. Meitz & Weiss kerosene oil engine, 2 cyl., 4x4½, bronze shaft and propeller, reverse gear, good condition | 145 |
| 7 H.P. Eclipse, 2 cyl., 2 cycle, excellent condition, nearly new, bronze propeller outfit, muffler, Schebler carburetor, reverse gear on extended base, 3½x3½ | 135 |
| 7½ H.P. Stanley, single cyl., 2 cycle, with coil, carburetor, muffler, 1910, overhauled | 65 |
| 6-8 H.P. Van Epps, 2 cyl., 2 cycle, 3⅜x3⅜, 1912, A-1, propeller, coil Schebler, carburetor | 135 |
| 6 H.P. Bridgeport, 2 cyl., 2 cycle, 1910, Schebler carburetor, magneto, reverse gear, coil | 150 |
| 6 H.P. Dunn, 3 cyl., 4 cycle, coil, vaporizer, muffler, coupling, propeller, spark plugs | 75 |
| 5½ H.P. Eagle, Model D coil, carburetor, muffler, shaft, propeller, and stuffing-box, A-1 condition | 85 |
| 5 H.P. Jager, generator set, single cylinder, 4 cycle, practically new, 1911, coil, carburetor, muffler, direct-connected generator (54 lights 16 C. P. each) bilge pump, air compressor | 500 |
| 4-5 H.P. Mianus, 1905, with shaft, 3-blade propeller, 18x25, coil, vaporizer, muffler, overhauled | 50 |
| 4 H.P. Fairbanks stationary, 4 cycle, 5½x10, first-class condition | 85 |
| 3½ H.P. Palmer, coil, carburetor, stuffing-box, muffler, shaft, propeller | 45 |
| 2 H.P. Mianus, coil, carburetor, muffler, shaft, wheel, stuffing-box | 60 |
| 2 H.P. Brooks, coil, carburetor, shaft, wheel, stuffing-box, coupling, spark plug | 35 |
| 2½ H.P. Eagle with shaft, propeller, stuffing-box, coil, carburetor and muffler | 45 |

# THE MOTOR BOATING MARKET PLACE

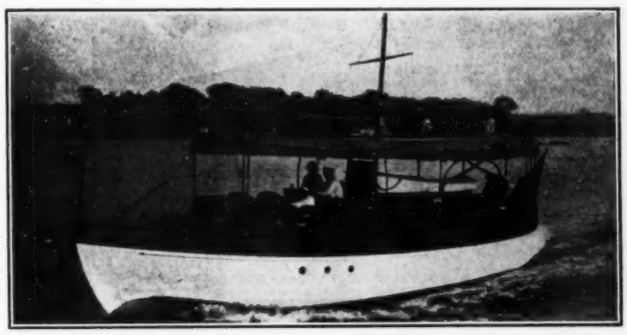
## Opportunities for the Motor Boatman

The rate for "For Sale" and "Want" advertisements is 1 cents per word. If an illustration is used the charge is as follows, which includes the making of the cut:
Cut one inch deep, one column wide..... $2
Cut 1½ inches deep, 1½ column wide..... $3
Cut three inches deep, three columns wide.....$10

**Before you buy or before you sell examine the exceptional buying and selling opportunities under this heading. They comprise the best offers of the month. Please mention MoToR BoatinG.**



No. 620.—For Sale or Charter.—Shoal draft, pole mast auxiliary schooner yacht; 90 ft. overall; 65 ft. water line; 21 ft. beam; 4 ft. draft; recent build. Speed, under power, 10 miles; 100 H. P. 6 cyl. 20th Century motor (installed last fall). Five staterooms, large saloon, bath, two toilets, etc. Sails new 1911 (hardly uesd). Exceptional opportunity. Apply to Cox & Stevens, 15 William Street, New York. Telephone Broad 1375.



For Sale.—A first-class mahogany finished bridge deck cruiser, length 42 ft., beam 9 ft. 10 in., draft, 3 ft. 6 in. Engine Jager, 4 cyl., 4 cycle, 32-40 H.P., heavy duty. Speed 11 miles. Fully equipped. Used twice this year. Good reasons for selling. Price attractive for quick sale. Come and inspect. G. F. Seibel, Taunton, Mass.

For Sale.—Ideal craft for Florida cruising. Length, 36 ft., beam, 9 ft.; 2 ft. 6 in. shoal draught; head room 6 ft.; 18 H.P. Fulton Self Sparking engine with clutch. Has toilet room, clothes closet, large galley with refrigerator, sink, running water, stove-stand, buffet. This boat is a one-man control. Inspection by appointment. Building larger boat. Albert E. Eldredge Corp., 30 Church St., New York City.

CYLINDERS REBORED—Pistons and rings fitted, new cranks, connecting rods, cases, transmissions, any part for automobile or motor boat motor reproduced like original. The shop of quality. McCadden Machine Works, Minneapolis, Minn.

FOR SALE—Fine 40 ft. cabin cruiser, 7 ft. beam; cabin 28 ft. x 7 ft.; hull 1¼ in. Oregon fir; cabin conveniences; all controls, including Paragon reverse gear, carried forward; one-man control; 8 cylinder Type C Van Blerck engine; compressed air self-starter. All practically new and in splendid working shape, not having cruised over 600 miles. Speed 21 miles per hour. Price $4,200. E. S. Herancourt, California, Ohio.

I HAVE secured the unsold 1912 product of prominent marine engine company. Can therefore sell the few remaining at prices that are right. Full factory guarantee. Four cylinder, 4 cycle, 60 H. P. medium duty. Single cylinder, 4 cycle, 6 H. P. medium duty Also 1911 4 cylinder, 40 H. P. Trebert, 5 x 5 in. One 1912, 4 cylinder, 2 cycle, 24 H. P. Waterman. An exceptionally high grade 100 H. P., 4 cylinder, 4 cycle racing engine built by the best shop in the country; duplicates in famous racing boats. "Exceptional," care MoToR BoatinG.

CANADIANS, Second-hand engine bargains. Send for list. Guarantee Motor Company, 73 Bay Street, North, Hamilton, Ont., Canada.

USE "SNAPPER" ENGINES for your small boat. They are a big little engine built by The Automatic Machine Co., Bridgeport, Conn.

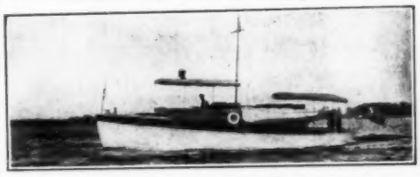
BROKEN cylinders and crank cases welded. Worn cylinders rebored. Scored cylinders repaired, $12. See our ad, Page 80. Waterbury Welding Company, Waterbury, Conn.

FOR SALE—27 ft. cruiser, brand new, latest style. Price $750. Address James Wilde, Pearl River, N. Y.

Will exchange my high-class automobile for motor boat. Send photograph and description to W. E. B., 733 Clifton Avenue, Newark, N. J.

This handsome $6,000.00 yacht $1,950.00 Mahogany; absolutely new. Sleeps 10. Speed 12; power tender upholstered, carpeted; bath room; galley; 6 ft. 8 in. headroom. Modern conveniences. Home comforts. Operating expense 5c a mile. Very able, comfortable and seaworthy deep sea cruiser. Strongest construction. 1914 delivery. Modern Yacht Co., Bath, Maine.

Cabin cruiser, 26 x 7 x 2½; has 10-12 H. P.; Atlantic Special Engine; speed 8 miles; boat in A1 condition fully equipped; in commission and a trifle over two years old. Will take any reasonable offer.
CHAS. A. GLOYD,
Pawtucket, R. I.



Bridge deck cruiser, 37 ft. 5 in. by 9 ft. 1 in.; 24 H. P. Lamb motor. Boat less than two years old, and cost new over $4,000. For quick sale will sacrifice for $2,000. For particulars address Sacrifice, care of Motor Boating.

FOR SALE—60 H. P. four cycle, 4 cylinder speed engine. Splitdorf high tension magneto, clutch and reverse gear wheel, and other equipment ready for boat. Price, complete, $200.00, or will trade for two cylinder heavy duty, 4 cycle. D. C. Powell, 1127 East Columbia St., Evansville, Ind.

17 ft. stepless Hydroplane, 25 to 27 mile speed; 25 H.P. three cylinder Pierce Budd engine, Bosch magneto; hull best oak and cypress construction, mahogany decks and finish; self aligning bronze strut and bearings; brass screw fastened throughout; used only half dozen times; price $700 cash. Can be seen at Evanston Yacht Club, Chicago. Address Stewart, 16 Balmoral Place, Winnipeg, Canada.

EXCEPTIONAL: Six cylinder 50-60 H. P. Speedway motor, complete with reverse gear, two propellers, gasoline tank, whistle outfit, etc. Very little used; nearly new. $500.00 cash, balance on convenient terms. Inspection by appointment. F. A. Carmelia, Ellis Island, No. 3, N. Y.

26 FT. mahogany, 23-mile speed boat; guaranteed first-class condition; 6-cylinder, 4-cycle motor, 40 H. P. Will sell very cheap. Write for description. W. E. Parker, Jr., 2839 Victoria Ave., Hyde Park, Cincinnati, Ohio.

HUNTING cabin cruiser, 38 ft., must be sold at once; no reasonable offer refused. Immediate sale more of an object than a good price. Complete and in commission. G. M. Tucker, Jr., Box 74, Albany, N. Y.

NEW V bottom cedar and mahogany power tender, 12 ft. x 4 ft.; Carlyle Johnson reverse gear 12 in. x 16 in.; Hyde propeller; rear starter and auto control. Make offer. Eastern Marine Motor Sales Co., 136 Liberty St., N. Y. C.

FOR SALE—Complete material for hull of 21 foot compromise stern power boat. Oak and cypress, with copper fastenings. Frame partially completed. Can be seen in Chicago. No reasonable offer refused. Write Mr. Pirrie, Libertyville, Illinois.

FOR SALE.—Unit power plant, consisting of 4 cycle, 4 cylinder American-British motor (aluminum base), Carlyle Johnson reverse gear; Lombard rear starter; all mounted on unit frame; Bosch D-4 high tension magneto; Schebler carburetor; motor 26 H. P.; splendid condition. Price $195.00. Folger Adam, Joliet, Ill.

WANTED—A Matthews launch hull, between 30 and 32 ft. length, 6½ or 7½-ft. beam. Must be A 1 condition, with or without equipment. Address Wm. M. Pagel, 295 Chestnut St., Detroit, Mich.

STERLING 100 H. P. high speed motor, like new; used only two months; factory overhauled and guaranteed. Luders Marine Const. Co., Stamford, Conn.

FOR SALE—A complete power outfit, consisting of a 4-cyl., 4-cycle engine, 40 H. P., Carlysle & Johnson; reverse gear, coil, magneto, shafting, propeller, universal joint. Now in commission and could be seen working. Price $225. Mr. J. Tullgren, 48 Baxter Ave., Quincy, Mass.

# Sell It In MoToR BoatinG's Market Place

**What Have You For Sale?** **What Do You Want To Buy?**

Every motor boatman, every yacht owner, sooner or later, has something to sell—something for which he has no further use—a boat, an engine, some equipment or other marine article that is just as good for service as ever. The fact that he no longer needs it does not diminish its value to the man who has a use for something of the kind.

There is a good customer looking for every article which is in serviceable condition. The question is to find that customer. That it what MoToR BoatinG's Market Place is for. Send us an advertisement of your discarded articles today.

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Office, 2702, Main. Residence, 3023-3, Brookline
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A NEW ENGINE FOR YOUR PRESENT ONE
SEWER, KIMBALL & COMPANY, INC., 123 Liberty Street, New York City, will make you a most liberal allowance on your present engine in exchange for a new one. Let us know your requirements.
OVER 2,500 YACHTS AND LAUNCHES FOR SALE.

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SELL YOUR OLD BOAT OR MOTOR
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ORIGINAL "V-BOTTOM" MOTOR BOATS

PIUTE III—A notable 24' "Hand V-Bottom," which has made good on all waters. A real salt water sea boat, with speed and comfort.
YOU CAN BUILD ONE. THERE IS NO STEAM BENDING.
*Send stamp for illustrated circular.*
WM. H. HAND, JR., NAVAL ARCHITECT,
New Bedford, Mass.
I can also supply a limited number of complete boats built to order.

Our 22x6 Stack Cabin Hulls
The most roomy and handsomest built. From $325.00 to $350.00 for hulls. 20 x 7, $450.00 to $500.00. Larger ones on order.
A. W. HURD, West Lynn Mass.


## Making Records at Buffalo.

*(Continued from page 5)*

six-cylinder 125 h.p. Van Blerck led on the first down river straight away, past the club house, closely followed by Kitty Hawk V, the Baby Reliances and Haida Papoose, but when they reappeared on the up river stretch, both Oregon Kid and Kitty Hawk V were missing, the severe pounding was more than the 300-pound hull of the former could stand, and after most of the bottom planks were gone, and nothing but the ribs left to keep out Niagara's waters, she gracefully went to the bottom. Kitty Hawk V threw out her crew at the turn also, and after circling around idly for a few minutes, she hit the east bank, took a wild dash out into the river again and sank about 200 feet from shore.

By this time the rest of the field had reached the turn and started up the river again, with the exception of P. D. Q. III, driven by her owner, who, always alert to every situation, noticed the crew of Oregon Kid having a hard time in the water, so slowing down his hydroplane and getting as near as possible without hitting them, he stopped his motor, dove overboard and saved the engineer just as he was about to go down. With his own life preserver he was able to keep him afloat and get him into his racing craft until he could be transferred to another boat. Mr. Miles then started in the race again, but the loss of 12 or 15 minutes for his life saving work, of course, cost him a place with the leaders, but even at that he finished fifth.

Baby Speed Demon, owned by Commodore J. Stuart Blackton and powered with a 180 h.p. Sterling racing engine, finished first and took the Chamber of Commerce Cup and $600. Haida Papoose, also with a Sterling, took second money, $300, and Baby Reliance, with still another Sterling, took third place and $150. (See full details on page 36.)

On Friday the E. R. Thomas Trophy was competed for and won by Commodore Blackton, this time to become his permanent property, as he was successful in winning it last year as well. The same boats raced as the day previous, except that Kitty Hawk V and Oregon Kid were still at the bottom of the river, and little Scat, the wonderful Mullins stock hydroplane with a three-cylinder Pierce-Budd motor came out to show the people that she wasn't afraid of boats with four times as much power as hers.

Peter Pan V also started, but not the same Peter Pan V which everyone knows so well. The old hull was badly damaged in a collision at Put-in-Bay, just before the last race, so her owner, Mr. James Simpson, got busy and had a new one built for Buffalo, some 400 pounds lighter than the old hull, but lack of time for a proper tryout resulted in a very poor balance of the new hull, and she bounded along like a rubber ball and her planking couldn't stand the strain.

A remarkable incident developed in this race which taught us that some real means must be at hand for attracting the attention of those in the racing boats, other than a cannon, and calling them in, if necessary. Every boat, except Scat, went over the line before the gun. One boat spurted about 15 seconds before the proper time and all the rest followed suit, so that when the gun sounded all were well on their way. A diversity of opinions followed from the judges as to the proper procedure to follow, but a very forcible remark from the general chairman, that the Regatta Committee would handle the situation, brought on a session of silence. The racers were all recalled, one by one, by various methods, and in 45 minutes another start was made, this time every racer was very cautious to keep well back of the line. (Full report on page 36.)

Perhaps the most important race was on Saturday, for the Trophy recently presented by Commodore Blackton to the Motor Boat Club of Buffalo. Several points in the deed of gift for this trophy are innovations and most excellent stipulations which should help the sport greatly. One of these provides that the trophy must be won at a speed greater than forty miles an hour, thus eliminating the possibility of a race being held when conditions are not suitable for hydroplane racing and the chance of a 20-miler going in and cleaning up.

Another provision is that each succeeding race must be won at better speed than the preceding one. All starts must be of those known as horse race starts.

Haida Papoose, which finished second on both Thursday and Friday, took the lead soon after the start and held it to the finish, although beating Baby Speed Demon to the line by only seven seconds. Forty seconds later P. D. Q. III finished a very good third. About four minutes later Mitt III came in, but Baby Reliance and Kitty Hawk, Jr., met with hard luck. The first three boats to finish were all within the 40-mile-an-hour limit.

There were also races for slower craft and cruisers held during the mornings of the three days. In the Bang and Go Back race for cruisers, Vigilant won with Monarch second. Rascal, with a four-cylinder Sterling, and owned by J. A. Mitchell, won the restricted class race, and Marco, with a six-cylinder Sterling, owned by John Robinson, of Toronto, won the class for displacement boats.

## Treating the Hull for a [illegible] Race.

The usual procedure is as follows: Either the graphite is mixed with shellac to a very thin consistency and then applied with a soft brush, or else the surface to be treated is first shellaced, and the graphite is shaken over the surface, while it is still sticky, through a cloth bag of moderately coarse texture. Only a small area should be treated at a time, as the shellac dries very rapidly. In both cases, the entire surface, when dry, should be rubbed to a polish with a cotten cloth. Any rough places should be carefully smoothed off with very fine sand-paper.

Just how much this surface would assist in producing the highest possible speed is not easy to determine. The gain over a first class bottom of some good anti-fouling composition would necessarily be small.


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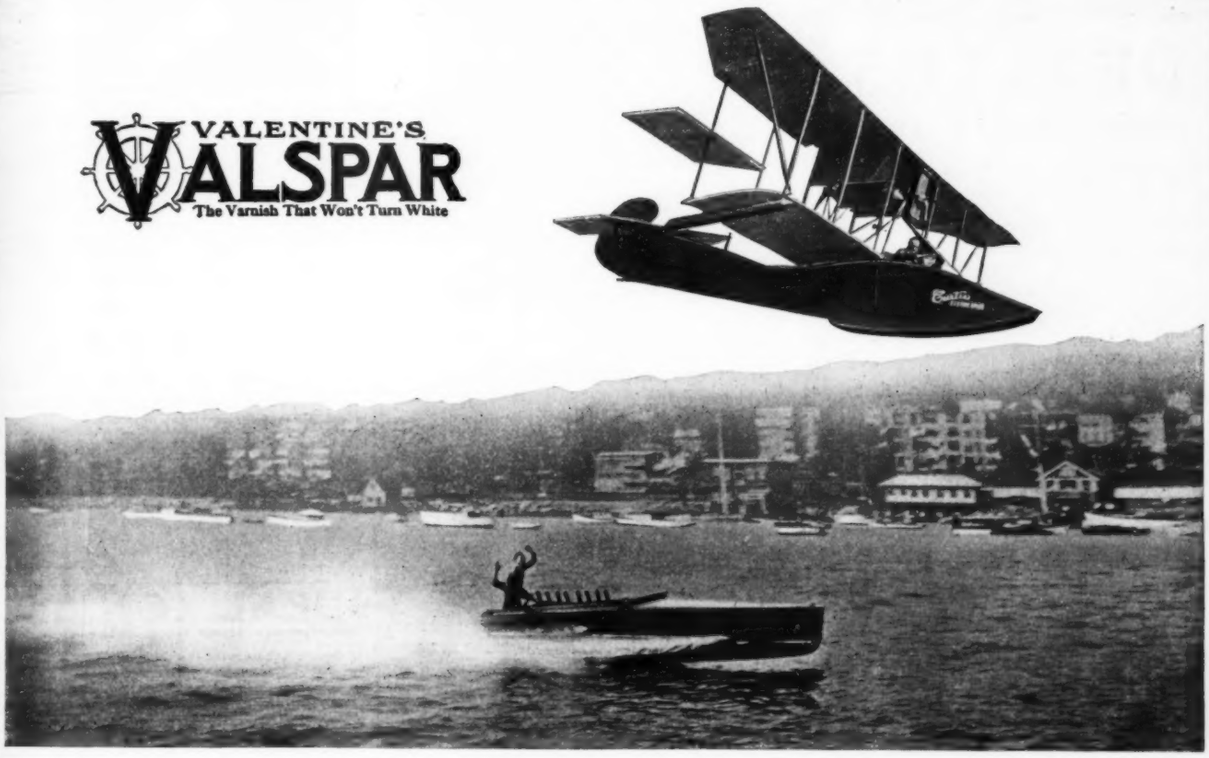
VALENTINE'S
VALSPAR
The Varnish That Won't Turn White



# The Varnish They Couldn't Injure

Beckwith Havens and J. B. R. Verplanck couldn't well have tested Valspar more severely than they did when making their famous thousand-mile endurance run in a Valspar-varnished Curtiss Flying Boat.

"For two weeks"—we are quoting a Curtiss letter—"This boat had been without shelter or care of any kind. It lay on various beaches in the broiling sun; it was out every night, often in pouring rain, but when at the end of the trip the craft was sponged off, the paint and varnish looked practically as good as the day it left the factory."

All Curtiss Flying Boats and Hydro-aeroplanes are varnished with Valspar.

The Benoist Company, whose Flying Boats are also Valspar-varnished, states, "Valspar is the only efficient varnish that can be used."

Valspar is a waterproof, extra durable varnish for interior and exterior use on all kinds of craft. It dries dust-free in two hours; hard in a day.

Write for nearest dealer's name, instructive book on how to varnish boats, and free two-ounce sample can.

VALENTINE & COMPANY, 456 Fourth Avenue, New York
NEW YORK CHICAGO BOSTON (Established 1832) TORONTO PARIS AMSTERDAM

SMALLEY
MARINE GAS ENGINES

DEALERS
HOW ABOUT 1914

Make it your Big Year by handling the Smalley. Don't be content with getting one class of trade, get it all.

The Smalley line will be even more complete than ever. This means money in your pockets, and satisfied customers.

We are the manufacturer that protects the agent.

Smalley-General Co.
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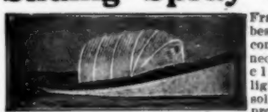
BRASS and BRONZE
"STAR BRAND"
MARINE HARDWARE
Let us have your inquiries.
CUT in PRICE, Not in QUALITY
GENUINE HIGH GRADE MANGANESE BRONZE

PROPELLERS

| | 2 BLADE | 3 BLADE |
|---|---|---|
| 10-inch | $1.15 | $1.65 |
| 12 " | 1.45 | 1.75 |
| 14 " | 1.90 | 2.25 |
| 16 " | 2.10 | 2.95 |
| 18 " | 3.00 | 4.20 |
| 20 " | 3.45 | 5.35 |

3 Standard Pitches. Right and Left Hand.
AUGUST BUERMANN MFG. COMPANY
212-220 Jelliff Ave., NEWARK, N. J.

Sliding Spray Hoods



Frames of brass or best quality ash, complete with all necessary fittings; cloth covering, light, durable, absolutely water proof; can be raised or lowered in 10 seconds; furls compactly.

Life Saving Devices of all kinds; Acme Fibre Cushions, Perfection Pneumatic Mattresses, Folding Canvas Boats, Life Preservers, Swimming Collars, etc.
Our Special Catalogue M, fully describing these and other sporting accessories, should be in your hands. Send for it today.

THE PNEUMATIC MFG. CO.
526 17th Street Brooklyn, N. Y.

Curtiss Motor-Boat Water Closet

$20

We built this Motor - Boat Water Closet after carefully considering the designs and requirements of small cruising boats and the demand for a low-priced fixture, suitable for above or below waterline use. When installed above the water line it only requires a sea-valve on suction pipe. Its simplicity and ease of installation enable anyone to install it.

*Manufactured solely by*
THE J. H. CURTISS CO., 2 South Street, N. Y.

## Finding the Weak Cylinder.

THE quickest and easiest way to ascertain which cylinders are not giving the power they should, is to use one of the speed indicators for taking the number of revolutions of an engine. If the motor has two cylinders, cut out each of the cylinders in turn by short-circuiting the spark plugs, or by breaking the circuit at the binding posts on the commutator. The cylinder giving the lower r.p.m. when running alone is, of course, the weak one. If there are more than two cylinders, proceed as before, cutting out all but one. Remove the plugs from the idle cylinders to prevent them from stalling the running ones.

The weak cylinder thus located, the real hunt is just begun. The first step in the search is to examine the compression. See if there is any leakage through or around the plug. If so, tighten the plug if possible.

If the cylinder head is removable, there may be a leak in the gasket. This may usually be ascertained by smearing soapy water around the joint, the air forced out forming small bubbles. A new gasket will be needed to remedy this defect. If there is leaks at the point where the intake manifold is attached, part of the mixture will be forced out, and also air may be drawn in, either of which will weaken the power of the cylinder involved. If such is the case, small bubbles of oil will be seen at the leaky point. The soapy water test may also be applied. If there is a carbureter for each cylinder try adjusting the air and needle valves. Dirt in the gasoline often collects at the needle-point, causing a weak mixture. If there is one carbureter for two or more cylinders, and the engine is placed at a considerable slant, the rear cylinder may tend to get a richer mixture than the forward one. As a result, the mixture that is right for one cylinder will be too rich or too weak for the other. If the motor is a two-cycle, possibly an auxiliary air valve attached to some convenient place on the base of the rear cylinder will dilute the mixture. If the motor is a four-cycle, all that can be done is to adjust the carbureter to give the best results, irrespective of the effect on the individual cylinders.

In inspecting the ignition system, see that there are no loose connections and that no uninsulated spots on the wires touch any metal. Try adjusting the coil and see that the spark plug is in good order.

With two-cycle motors, look for leaky gaskets at the base. These are often injured by backfiring. Not only does this cause some of the mixture to be forced out on the down stroke, but also permits air to be drawn in on the up stroke, weakening the mixture. This defect may be temporarily remedied by painting the edges of the joint with several coats of shellac, but new gaskets should be put in as soon as possible.

Perhaps one of the cylinders has had insufficient lubrication, and the piston and cylinder walls are more or less scored. Whether regrinding or new parts will be necessary can be determined only by a competent gas engine repairman. Another common result of too little lubrication is worn crank shaft bearings. In a two-cycle motor, this has the same effect on the mixture as leaky gaskets in the base. Defective end bearings can be detected usually by grasping the protruding end of the shaft and working it up and down, any considerable play thus manifesting itself. Leaks through bearings between sections of the crank case affect both cylinders. Such leaks are almost impossible to detect unless the motor is taken down. In both cases replace the bearings if renewable; if they are not, take the motor to a machine shop and have them re-babbitted.

To sum up, the most common ailments of the two-cycle motor are leaky base gaskets and crank-shaft bearings. The four-cycle is subject to leaky valves and improper valve timing. Both types suffer from carbureter troubles, poor compression, defective ignition and worn pistons and cylinders. All of these things may cause variation in the power of the cylinders. W. K. B., Ann Arbor, Mich.

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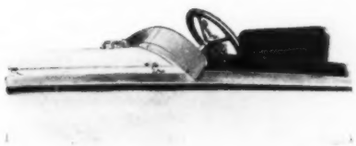
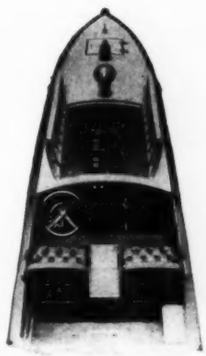


RAKING DASH

that are being imitated by leading boat-builders are the Raking Dash, the White Enamelled Deck and the Divided Front seat. We have been granted broad, basic patents on several of these features, which we value most as evidence of our leadership among workers of our craft.



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Increased power and speed, Automatic action — perfect control, and will pay for itself in gasoline saved
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## New Rulings in Regard to Boats Carrying Passengers for Hire.

THE following is the interpretation now placed on the paragraph at the top of Page 75 of the General Rules and Regulations prescribed by the Board of Supervising Inspectors.

Motor boats carrying passengers or freight for hire and navigating routes at all points within a distance of five miles from land, or over waters whose depth is not sufficient to entirely submerge the vessel in case of disaster, shall be required to be equipped with either.

Lifeboat capacity sufficient to accommodate at one time at least 10 per cent. of all persons on board, including passengers and crew.

Or, if they are under 50 tons they may be equipped with air tanks under deck, of sufficient capacity to sustain afloat the vessel when full of water, with her full complement of passengers on board.

Or, they may be properly subdivided with iron or steel watertight bulkheads of sufficient strength and so arranged and located that the vessel will remain afloat with her complement of passengers with any two compartments open to the sea.

Only such vessels as shall be navigated on the waters of the ocean are required to have on board lifeboat capacity of at least 100 cubic feet. Boats navigating lakes, bays, sounds and rivers are not required to carry a boat if they are equipped with tanks or bulkheads, as outlined in the previous paragraph.

A boat of 100 cubic feet capacity may be either 14′ x 5′ 8″ x 2′ 2″ deep, and will cost roughly $150.00, or 16′ x 5′ 4″ x 2′ 0″ deep, costing roughly $175.00. No davits seem to be called for and where there is no engine room available upon which to stow the boat, it can be stowed on top of the pilot house with a horizontal support aft to support the after end.

The tanks to be of sufficient capacity to float the boat, should be of one cubic foot capacity per rated h.p. plus one cubic foot for each passenger carried. In cases where the engine is less than 50 h.p., 50 cubic feet should be allowed for the boat, and where the engine is more than 100 h.p., 100 cubic feet of tank space is sufficient to float the boat on account of the displacement of the large fuel tanks necessary for the large engine.

This means that a boat of 75 h.p. over 15 tons, carrying 100 passengers, will have to have 75 cubic feet for the boat and 100 cubic feet for the passengers, or 175 cubic feet total tankage capacity. The tank should be about evenly divided and as close to the ends of the boat as possible.

Standard hot water boilers, tested to 85 lbs., will be satisfactory as tanks.

The construction of built tanks is as follows:

All the air tanks over 15 cubic feet capacity to be No. 18 Birmingham Wire Gauge galvanized iron.

All seams and joints shall be properly double riveted,—the seams and butt laps at least 1¼″.

The center of the row of rivets nearest the edge of a sheet shall be about ⅜″ from the edge. Rivets shall be staggered with not less than 18 rivets to the foot, and shall have countersunk heads. The diameter of shank of the rivets shall be not less than No. 10 B. W. G.

Each tank shall be fitted with swash plates spaced two feet apart in one direction, and the unsupported ends of the tank shall have stiffeners on it made of No. 18 galvanized iron, with a 4″ standing flange and a 1¼″ flange riveted to the end of the tank. These stiffeners to be spaced not made than 2′, and the rivets to be spaced about 2½″.

The cubical contents of air space of tank shall be stamped on the tank where same can be seen when air tank is placed in boat.

All air tanks shall be fitted with a connection of ½″ outside diameter, for testing purposes.

All airtanks of lifeboats shall be tested at the original and all subsequent inspections.

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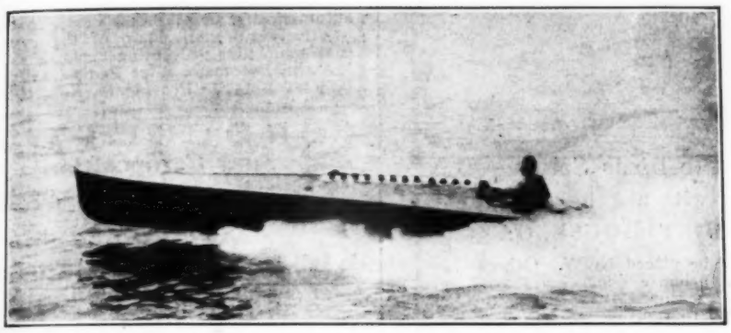
# Van Blercks Lead at Buffalo



*Kitty Hawk V—which made a record at Toledo that has not been beaten in American waters.*

THE two speediest boats *at Buffalo* were the Kitty Hawk V and the Oregon Kid—both driven by Van Blerck Motors.

In the first day's race, Thursday, September 4th, the Oregon Kid was the first to cross the line, followed by a bunch of other boats, the Kitty Hawk V well in the rear.

The course was 2½ miles up and down the river, the starting line being half way between the stakes. At the first turn, the Oregon Kid was well in the lead and going like the wind. The Kitty Hawk V had passed most of the fleet and was away after the leader, cutting down the gap every second.

At the second turn—3¾ miles from the starting line, the Oregon Kid and Kitty Hawk V were contending for first place and were then fully ***one-quarter mile ahead of the nearest competitor.***

And then it happened. There was a mixup and both boats sank. The Kitty Hawk V was not raised till Saturday morning, too late to participate even in the final event. The Oregon Kid had not been located up to this writing.

*Oregon Kid—Champion of the Pacific and the most wonderful little boat ever built.*

## It takes a Van Blerck to beat a Van Blerck

**VAN BLERCKS LEAD AT**

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| *TOLEDO* | *CHICAGO* | *KEOKUK* | *PORT WASHINGTON* |
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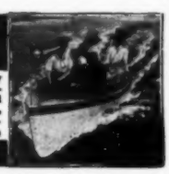

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# An Announcement of Special Interest

## to Every Boat Builder, Naval Architect, Dealer, Boat Owner and every Reader of this publication

**We announce the consolidation of the Gas Engine Department of the Loew Manufacturing Company of Cleveland, with the Harbeck Motors Company of Chicago, as the Loew-Victor Engine Company of Chicago. This consolidation means more to the Marine Gas Engine Industry than anything else that has ever happened in this field. The benefits are obviously manifold to the purchaser, designer, builder and dealer alike.**

### The Loew-Victor Engine Company

An Illinois corporation having a paid in capital of $250,000, will occupy on December 1, 1913, its new factory situated at the corner of Oakley and Oakdale Avenues, directly on the north branch of the Chicago River.

The Officers of the Company are as follows:

| | |
|---|---|
| J. R. Harbeck | President and General Manager |
| A. T. Ewing | Vice-President and Counsel |
| H. A. Wing | Treasurer and Auditor |
| E. A. Ewing | Secretary and Chief Engineer |
| N. G. Rost | General Sales Manager |
| W. C. Willard | Production Manager |

### Responsibility

The Officers of the Company are men of large and successful manufacturing and business experience: and the stock-ownership is in strong and responsible hands. A purchaser of the Company's product is assured of a fulfillment of all obligations, and the Company's representatives will have the assurance of selling a product backed by a broad policy and a responsibility with which to carry out such a policy.

### The New Factory

The new factory, up-to-date in every respect, and designed for the exclusive manufacture of marine motors, is now being built in Chicago. Our entire efforts will be concentrated in obtaining economical manufacture of Loew-Victor engines with machinery equipment, jigs and tools, as complete and modern as can be obtained. The Loew-Victor has a well earned reputation as a strictly high grade, carefully built and well tested engine. The new Loew-Victor will live up to this standard and will surpass it wherever possible.

### Policy

The inflexible one-price rule, originated by the Loew Manufacturing Company, and also fostered by the Harbeck Motors Company, will be religiously maintained by the new organization. The wonderful growth of the Loew-Victor engine business is attributed not only to the excellence of the product, but also very largely to the strict maintenance of a retail price, and of a price to the trade—a discount only to those justly entitled to it. The keynote of our entire policy is to give to the purchaser a remarkable money value; to the designer and to the boat-builder an engine that will set forth to advantage *all* that their skill has produced, and to the dealer an engine that he may sell and personally guarantee wholeheartedly and with a clear conscience. No model will be offered to the market that has not had thorough and exhaustive sea tests to prove that each and every feature of that model is *right*.

### A Complete Line

We shall offer the most comprehensive line of four stroke internal combustion engines on the market. Until the new factory in Chicago is completed, the line of medium duty, heavy duty and high speed Loew-Victor motors will be manufactured in Cleveland, and the high speed, heavy duty motors, formerly known as the Harbeck, will be built in their present factory. Additions to this already complete line will be made from time to time as the demands of our clients may warrant. From this complete line a suitable power plant selection may be made for any power boat. It will not be necessary to look beyond the Loew-Victor for a four stroke marine engine to suit your particular requirements.

## LOEW-VICTOR ENGINE COMPANY

**1907 Madison Avenue ∴ ∴ ∴ CLEVELAND, OHIO**

For Safety in Your Motor Boat

**PARAGON REVERSE GEAR**

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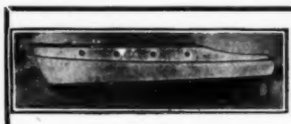

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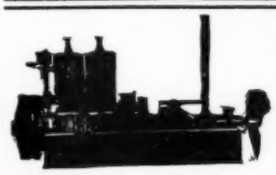

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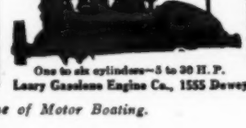

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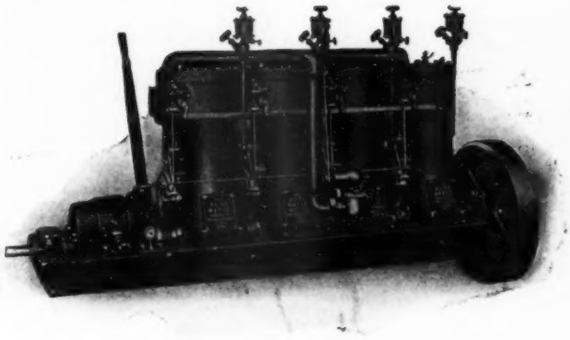

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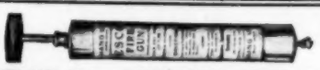
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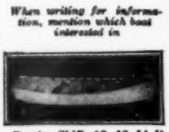
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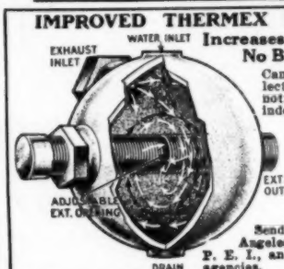

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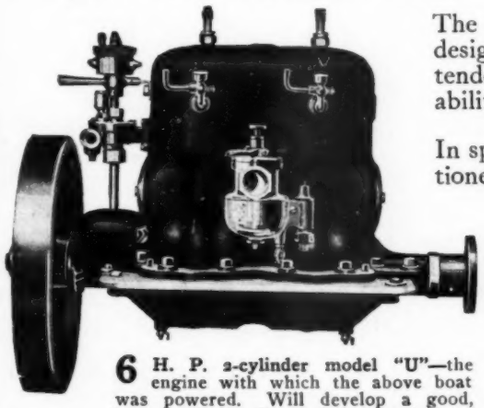
***17½ miles per hour is without question a World's Record for a 6 H. P. Motor***

The boat making this record was a 14 ft. V-bottom hydroplane, built by the Valley Boat & Engine Co., and powered with a 6 H. P. Gray Model "U."



**6 H. P. 2-cylinder model "U"**—the engine with which the above boat was powered. Will develop a good, honest 8 H. P. Perfectly balanced. Runs with practically no vibration, and the complete outfit with everything ready to install in your boat, sells for . . **$114.00**

The engine was one of our regular stock models — an engine designed and built for hard, every-day service in family launches, tenders and auxiliaries, which goes to show the wonderful adaptability of this engine to various kinds of service.

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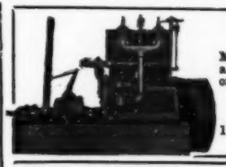
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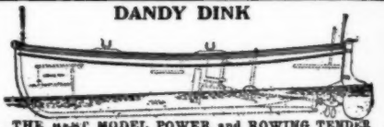
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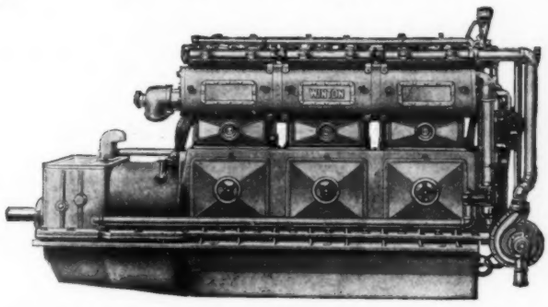

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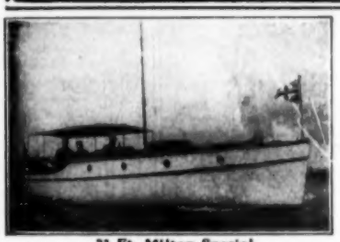

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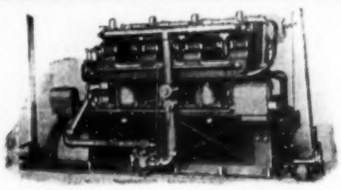

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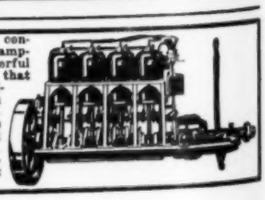

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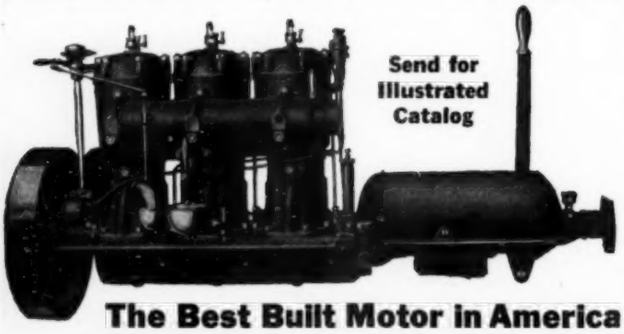

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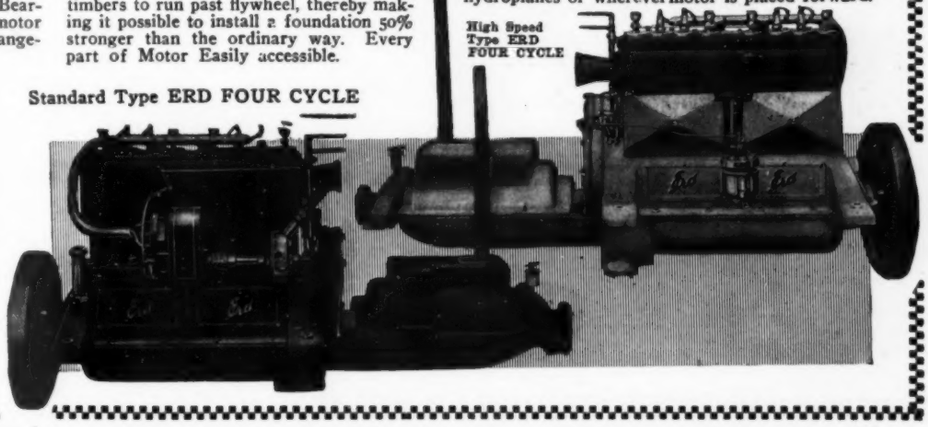

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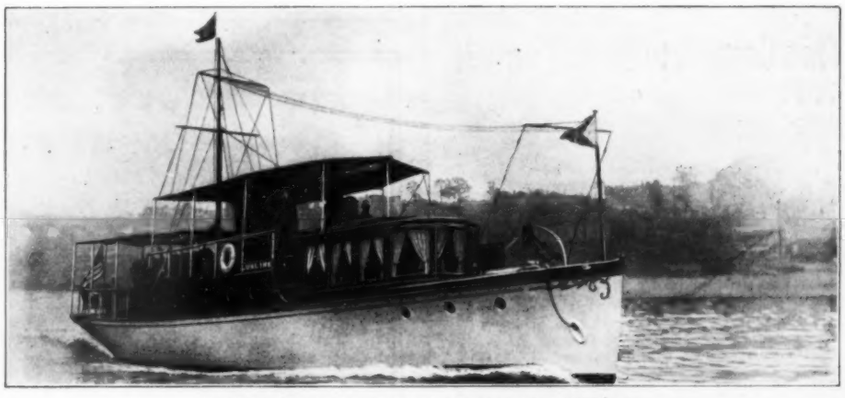

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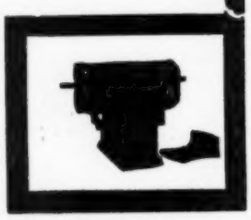

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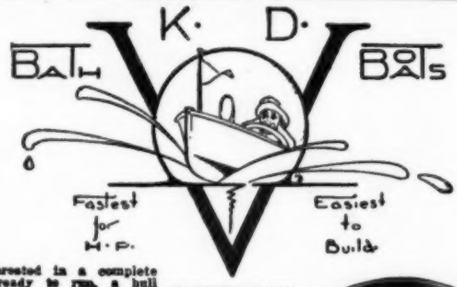

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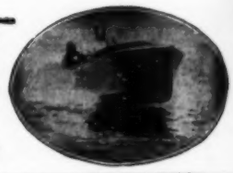
If interested in a complete boat, ready to run, a hull ready for engine, a knock-down boat, full size patterns, or plans; for pleasure, work, speed or comfort; let us know your requirements and get our figures before purchasing.

Remember we are the originators of the famous Bath V-Boats and Hydroplanes of the "Bumble Bee" Type. Catalogue G gives our line and will be sent on request.



Bath Marine Construction Co., Bath, Me.
HENRY DOUGLAS BACON, Naval Architect

Type "M" Marine

# AMPCO

*The Faultless Distributor*

The Ampco is the only distributor on the market that is absolutely fool proof. Further, it absolutely eliminates all the usual insulation troubles.

The Ampco insures perfect synchronism and will start your motor on even a quarter turn.

*Write for folder 21 for details*

American Motor Parts Co.
52d and Baltimore Ave. Philadelphia, Pa.

# Auto Craft LAUNCHES

We carry a complete line of
ROW BOATS—FAMILY BOATS—
RUNABOUTS—CABIN CRUISERS
Write for catalog
THE CLEVELAND AUTO BOAT MFG. CO.
1037 W. 11th St., Cleveland, Ohio.

# ANDERSON ENGINE

**What Work? What Water?**

Tell us—and let us prove the superior PERFORMANCE of

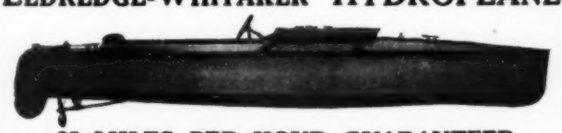
**ANDERSON ENGINES**

2½ H. P. single to 150 H. P. "six."

We will prove it by new users that you know perhaps or that are well known at least. Write us.

**ANDERSON ENGINE CO.** 136 SO. DEARBORN STREET, CHICAGO ILLINOIS

## ELDREDGE-WHITAKER HYDROPLANE



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BEAUTIFULLY FINISHED IN MAHOGANY

WE ARE DISTRIBUTORS FOR

—Lamb and Winton Four Cycle Marine Engines—
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Full line of engines and boats always on exhibit at our showrooms. All motor boat owners or prospective owners are invited to examine this permanent exhibit whenever in New York City.

ALBERT E. ELDREDGE CORPORATION
Fulton End Concourse 30-50 Church Street, New York.

# Only $95.00 for This Complete 16-ft. Launch

equipped with 2 H. P. engine and clutch, guaranteed self-starting Engine, weedless Wheel and Rudder. Result of 30 years' experience. Money back if not as represented.

Only $37.50 Complete

Just Like a 30-Footer Only Smaller.

**Engine Alone Only $37.50 Complete with Clutch**

ready to install in your launch. Special terms for other sizes of Engines from 2 H. P. to 75 H. P.

Illustrated literature giving full information, mailed free. Do not think of buying a Launch or Engine until you see our illustrations. Ten Days' Free Trial on All Engines.

*Be Sure and Write Today For Our Proposition and Full Description*

C. T. WRIGHT ENGINE CO.
458 STATE STREET :: GREENVILLE, MICH.

# Help Your Dealers by Advertising

Up-to-date manufacturers do not consider their product sold when it has only reached the dealer. They follow it through until it is in the hands of the consumer.

MoToR BoatinG is the most tangible dealer aid known. All the best dealers read it regularly, and they see what is being done for them in the way of advertising by the manufacturers they represent. Their appreciation is shown by increased loyalty for the manufacturer and enthusiasm for the product.

## MoToR BoatinG

J. S. Hildreth, Adv. Mgr. 119 West 40th Street, New York

HORIZONTAL TYPE

## Give Yourself a New Motor at the Cost of a Carburetor,

The new model "Y" Kingston Carburetor will make your motor run like new, give you more power and speed, easier starting and more even running. This is true, no matter what carburetor you are now using, because the Model "Y" is

**DESIGNED ESPECIALLY FOR POOR GASOLENE**

The poor grades of fuel now supplied demanded a new type of carburetor which would handle them satisfactorily. Building on the long standing Kingston reputation, and the basic features which have earned that reputation, we produced the model "Y"—the first perfect marine carburetor for low grade gasolene.

# KINGSTON CARBURETOR

The Kingston Model "Y" is its own best salesman. Its action on your motor is more convincing than any technical argument we could advance. For that reason we want you to accept a

**30 Day Free Trial**

Write today for full information, Free Trial Offer and Guarantee.

PHANTOM VIEW

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### KOKOMO, INDIANA

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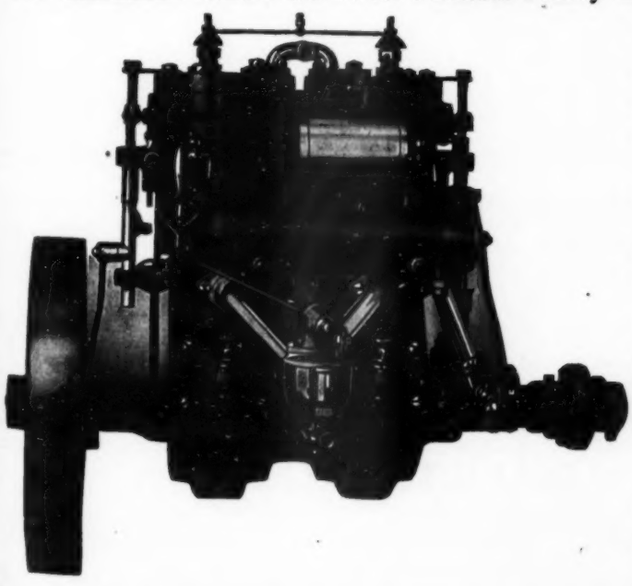
Seattle, 526 First Avenue, South
Los Angeles, 332 Picco St.
Chicago Office, 1430 Michigan Ave,
Detroit Office, 650 Woodward Ave.

## The Most One — Bridgeport "THE MOTOR THAT MOTES" — Could Wish For

The illustration shows our 1913 Medium Heavy Duty Type Gasoline Motor, admittedly the most highly perfected of its type. The general design embodies a number of exclusive features which have made the Bridgeport famous as a practical working outfit, from the viewpoint of the operator.



All models are fitted with our Bridgeport Vapor Rectifier which prevents back-firing, provides reliable service at all speeds, and economical fuel consumption.

Our Kerosene Motors, fitted with the

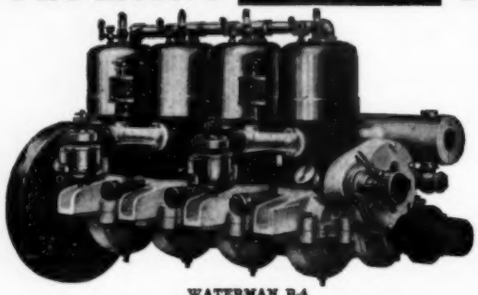
**BRIDGEPORT OIL TRANSFORMER**

operate successfully on **Kerosene.**

*Send for free catalog "B"*

**THE BRIDGEPORT MOTOR CO., Inc.**
BRIDGEPORT, CONN. U. S. A.

## Two Motors that have made The Waterman Reputation World-Famous

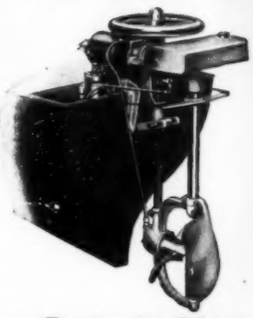


WATERMAN B-4
4 Cylinder, 2 Cycle, 24 H.P.

Sturdy, dependable, powerful — Waterman Motors meet the severest tests whether of rough open sea or extended speed contest. For pleasure boats, rowboats, hydroplanes, work boats—there's a Waterman for every purpose. Every one is guaranteed for life—every one is light, robust, smooth-running.

**The Porto Makes the Rowboat a Pleasure Boat in 3 Minutes**

This famous midget gives TWO FULL H. P.—weighs but 56 lbs. complete, propeller, rudder and all. Bore, 2¾ ins.; stroke, 3 ins. Copper-jacketed; under-water exhaust; steers with tiller ropes. Drives an 18-ft. rowboat 7 miles per hour. 4 hours on a gallon of gasoline. Eighth year of success—it's the original.



Write for catalog, showing latest models. It's free—write today

**WATERMAN MARINE MOTOR CO., 201 Mt. Elliott Avenue, Detroit, Mich.**

Canadian Fairbanks-Morse Co. Ltd., Exclusive Distributors for Canada of Outboard and Model X Motors.

A WELL-DESIGNED 4-cycle engine consumes about one pint of gasoline in an hour for each horse-power that it develops. An engine which develops 25 actual horse-power will burn 25 pints of gasoline in an hour, or 25 gallons in 8 hours. With gasoline selling at 18 cents a gallon, the cost of fuel for those 8 hours, or an average work day for a boat, would be $4.50. If, however, you were operating a

# REGAL OIL ENGINE

and consequently were burning kerosene in your engine, the cost of fuel with kerosene selling at 8 cents a gallon would be $2.00. The difference of $2.50 represents a net saving in fuel costs for a day's time.

If you used your boat continually, in two or three years the saving would run up into large figures. Better investigate the Regal kerosene engines.

24 h.p. Medium Duty Engine.

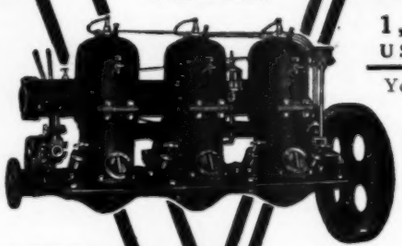
**REGAL GASOLINE ENGINE CO., 74 West Pearl Street, Coldwater, Mich., U. S. A.**

# VIM MOTORS

The Boat Builders' "Stand-By" —The Boat Owners' Pride

**5 to 55 h. p. 3 KINDS—**
**SPEED REGULAR HEAVY DUTY**

Strong, neat, simple—absolutely dependable. Give honest, enduring service—constant satisfaction. Win your enthusiastic confidence. Easily accessible—crank case conveniently opened from either side. Non-backfiring. Double ignition. Easy starting flywheel. Connections for rear starter. Equipment includes Paragon reverse gears. Mea Magnetos, Noxon distributor, heavy brass fittings and many other exclusive features.



TRADE MARK

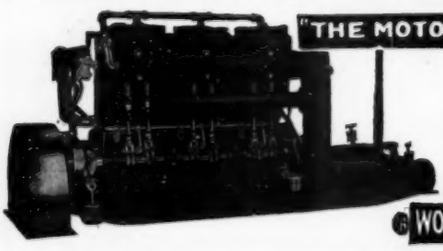
**1, 2, 3 and 4 CYLINDER**
**USE GASOLINE OR KEROSENE**

Your boat, equipped with a **VIM**, will make your day or evening on the water—with the pure air, refreshing breeze—the lure of the great outdoors—one of exhilarating enjoyment and healthful recreation. Thousands in use, many of them eight or nine years old. The old boatman picks the **VIM**. Read twenty-seven reasons why in our new book, "Boating Facts."

**Send for Your Copy Today**

We still have a little open territory where we can use a few more good agents. Write for proposition.

**VIM MOTOR COMPANY 2810 Water St., SANDUSKY, OHIO**

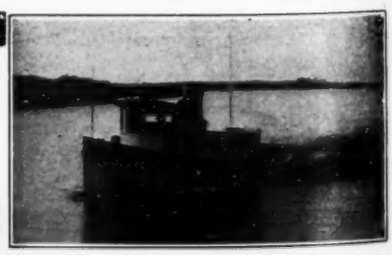


"THE MOTOR WITH THE BORE AND STROKE"

FOUR CYCLE **WOLVERINE** MARINE ENGINE

They Use Kerosene, Gasoline, Alcohol, Distillate, Producer Gas.
Have no equal for economy, durability, power, reliability and steady service.
One to Three Cylinders. 5 to 100 H.P.
*Write for free catalog No. 53*

WOLVERINE MOTOR WORKS. BRIDGEPORT, CONN. U.S.A.



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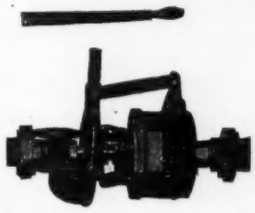
consists in placing your selling message before the greatest number of possible buyers. MoToR BoatinG has the largest guaranteed circulation in the marine field, reaching boat owners exclusively and of a class who can *afford to buy* what you want to sell. *Write for rates and information.*

***J. S. HILDRETH, Advertising Manager MOTOR BOATING 119 WEST 40th STREET, NEW YORK***

THE WHEEL

THE GEAR



**40 to 50 MILES AN HOUR**

The speed of your boat is dependent upon the Propeller Wheel. You may have a racing boat equipped with a powerful engine, but if you have not the right wheel you cannot get the full speed. We can give you the right wheel that will give you the very limit of speed your boat is capable of. We have in hundreds of cases, and can in yours. Try us. Order a Michigan to-day, famous for their speed, used on some of the fastest racing boats in this country.

Besides racing Propeller Wheels we make Propeller Wheels for working and towing boats, launches and cruisers, that have increased their speed. We also have the Weedless and Reversible. Our specialty and hobby is Propeller Wheels; we have given it a life study, and made the Michigan world renowned.

This year you should have the Michigan; order one and win the races you lost last year. It will increase your speed, which means saving of time, and time means money on heavy commercial boats, and races and prizes on speed boats.

Multiple Disc Reverse Gears, Automobile Type Steering Wheels, Universal Joints, and a hundred and one other articles for motorboats we make and sell to the majority of engine and boat builders, and all of the best and latest design. Send us your orders; do not wait. Large catalog sent free.

**MICHIGAN WHEEL CO., 1115 Monroe Ave., Grand Rapids, Mich.**

Eastern Branch, 69 Cortlandt Street, New York. Remember the Name, "Michigan"

Winners
DREAM
Wins Bermuda Race

# COLUMBIAN PROPELLERS

Winners
TOSCAM II
Wins Return Race

FOR CRUISERS, SMALL YACHTS, PARTY BOATS, and for boats using propellers less than 30 inches diameter, we back the "COLUMBIAN" "Rocket" Propeller against the world.

FOR LARGE OYSTER DREDGES, FISHING BOATS, FERRY-BOATS, PASSENGER BOATS, YACHTS, we can furnish a "COLUMBIAN" Style "H" Propeller that will beat any other Propeller made.

"COLUMBIAN" Wheels—styles G and H—together with the "COLUMBIAN" "Architects" Propeller, which has beaten everything else on hydroplanes, are the three MOST POWERFUL PROPELLERS made anywhere in the World to-day.

Style H

***DON'T BUY until you read our booklet, "PROPELLERS IN A NUTSHELL"***

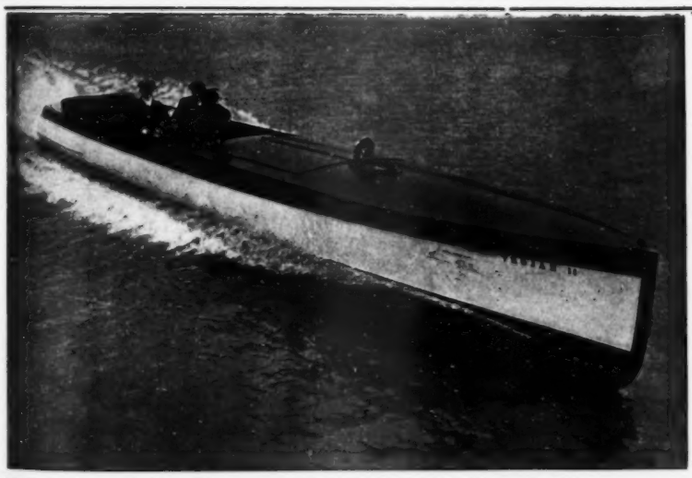
It also tells you about COLUMBIAN RUDDERS, Outboard Rudders, Speed Boat Rudders, Hydroplane Rudders, Launch Rudders, Universal Struts, Universal Stern Struts, Combination Outboard Rudders and Universal Stern Struts. *Write.*

## COLUMBIAN BRASS FOUNDRY

218 North Main Street

FREEPORT LONG ISLAND NEW YORK

Style G



# Niagara Owners Know

***READ THIS***

HEADQUARTERS
DEMOCRATIC COMMITTEE

Troy, N. Y., Mar. 11, 1913

*Niagara Motor Boat Co., North Tonawanda, N. Y.*

Dear Sirs:—I am in receipt of yours of the 1st inst., and in reply beg to say that it will be a pleasure for me to recommend your boats, should any customers seek information from me.

My boat has been a wonderful success, in fact it has given me greater satisfaction than I anticipated at the time of purchase. Do not hesitate to refer to me at any time.

With kind personal regards, believe me, Very truly yours,

Dict. J. J. M. Signed. JOSEPH J. MURPHY.

SEND FOR PLANS

**NIAGARA MOTOR BOAT CO.**

210 Sweeny St. North Tonawanda, N. Y.

# THE JOHNSON MARINE REVERSE GEAR

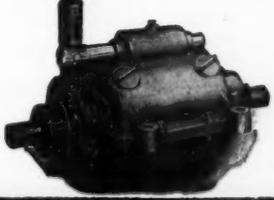
IN A NEW TYPE FOR 1913, FROM 1 TO 40 H. P.

COMPACT AND NEAT

SILENT AND POWERFUL

ENCASED BUT ACCESSIBLE

JOHNSON AND QUALITY



TELLS THE STORY

Guaranteed for ONE YEAR

THE CARLYLE JOHNSON MACHINE CO. MANCHESTER, CONN.

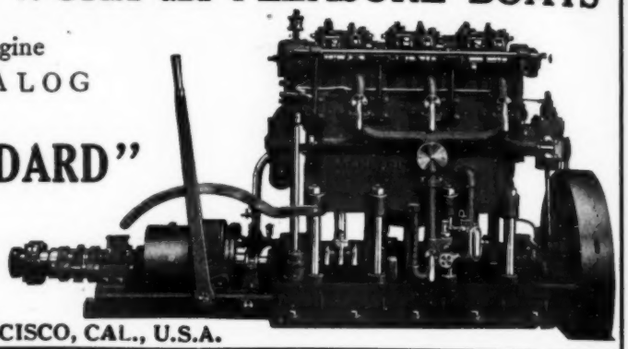
ALASKA-YUKON EXPOSITION

# HEAVY DUTY MARINE ENGINES

**Installed in the Finest WORK and PLEASURE BOATS**

Before purchasing an Engine
SEND FOR CATALOG
of the

**ORIGINAL "STANDARD"**



**Standard Gas Engine Co.**

*Incorporated June 4, 1901*

110 CALIFORNIA ST., SAN FRANCISCO, CAL., U.S.A.

# HYDE TURBINE TYPE PROPELLERS

**Are the Most Efficient For Speed, Pleasure and Commercial Boats**

Unexcelled in design, material and workmanship.
Made in diameters and pitches to suit all conditions.

***All Genuine Hyde Propellers have the name stamped on the hub.***

## The Irish Pneumatic Clutch Control

The latest and best method of controlling the engine from the steering stand or station, using air from the whistle tank.

HYDE WINDLASS CO. - - - - - - - BATH, ME.

PUT THE

# POWER OF NIAGARA

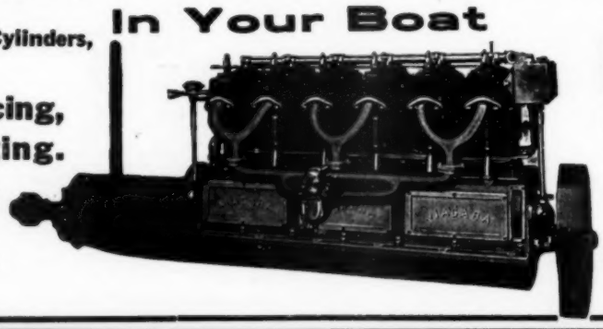
In Your Boat

**Four Cycle, in 2, 4 and 6 Cylinders, 5 to 100 H. P.**

**For Cruising, Racing, Fishing, Freighting.**

**75% of Niagara Sales due to Satisfactory Service.**

**Niagara Motors will Operate on Kerosene or Gasoline.**



**Highest Quality at Moderate Price.**

**In Service Nearly Ten Years and Not a Dissatisfied Customer.**

**We can save you money and much annoyance. Get Catalog.**

**Niagara Motors & Mfg. Co., Inc.**
194-204 Niagara Boulevard - Dunkirk, N. Y.

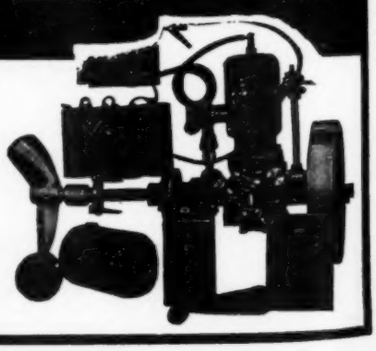
# YOU SAVE THE DEALER'S PROFIT ON LA MOTORS

It won't cost you as much as you thought to enjoy the pleasure of motor boating this summer. The old, reliable, "keep-going" Lockwood-Ash motors are sold direct from factory to you at a big saving.

**No Dealer's Profits to Pay**

**Immediate Delivery** Six models, all guaranteed for one year, and sold on 30 days' trial. No strings to this offer, no freight to pay. Just send for any of our complete outfits, and if it doesn't delight you send it back at our expense.

**The 1 1-2 H. P. Motor and Outfit Complete** shown in illustration. **Freight Paid,** only **$36.25** —a clear saving of at least $13.75. Post yourself on motor boating and the safest, cheapest way to buy by writing today for our 1913 catalog. It's soon time to start—**Get Busy.**

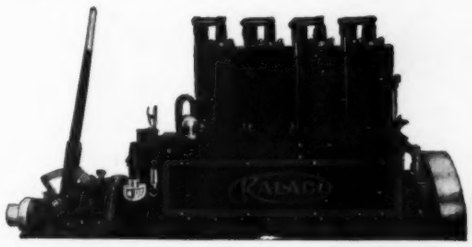


**LOCKWOOD-ASH MOTOR CO., 302 Horton Ave., JACKSON, MICH.**

RALACO
THE SILENT SIMPLIFIED ENGINE

**The great number of satisfied owners of *RALACO Engines* is rapidly increasing, owing to the general satisfaction given by all of them.**

High grade in the extreme clean, cool, quiet and dependable. A fuel consumption of 1-10 of a gallon of gasoline per horse power hour.



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**The MIGHTY MERCURY Drove GUNFIRE Jr,**

This is the Mighty Mercury 52 H.P. Special which drove the 20-ft. hydroplane Gunfire Jr., through its long list of records during 1912—one of the most successful racing seasons ever enjoyed by any boat or its owner. Ten firsts, one second, one fourth (broken propeller), and several records in hydroplane and displacement classes and free-for-all races.

The 52 H.P. Special has 5¼" bore, by 5" stroke. For power, flexibility, durability, smoothness and reliability, it is ideal for racers, cruisers and work boats.

Die cast bearings and every bearing surface is uniformly larger than the corresp... bearing of any other motor. 2⅛" valves, both inlet and exhaust. Capacious water jacket.

Reverse gear bed cast integral, with lower half of crank case. Paragon special reverse gear, with positive reverse lever lock, eliminating ringing and rattling noises.

Positive lubrication to every friction point. Becker imported Hollow steel wrist pins.

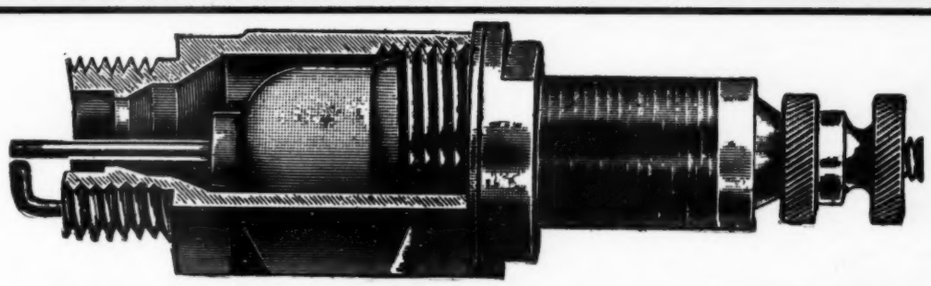
Write today for the Mercury Book.

Two New Models. 6½-in. Bore x 7-in. Stroke.

4 Cylinder—125 Horsepower. 8 Cylinder—250 Horsepower.

**MERCURY MOTOR CO., Produce Exchange New York**

COMET



SOOTLESS

**COMET AND SOOTLESS SPARK PLUGS**

MANUFACTURED BY

**The Oakes & Dow Co., 15 Chardon St., Boston, Mass.**

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**CATALOG No. 12** OF SEA-GOING CRUISERS, DAY CRUISERS, TUGS AND COMMERCIAL CRAFT.
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YEARS OF PRACTICAL EXPERIENCE IN BOAT BUILDING ENABLES US TO GIVE YOU THE VERY **BEST IN WORKMANSHIP—MATERIAL and FINISH** AT THE MINIMUM COST.

WATCH THE PERFORMANCE OF ANY RACINE, WISCONSIN, QUALITY—CRAFT.
WRITE US TO-DAY.

**RACINE BOAT COMPANY**
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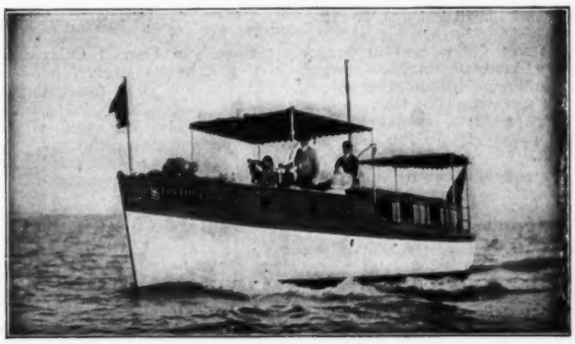
RACINE, WISCONSIN. U. S. A.



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VIBRATOR

## ORSWELL Master Vibrator

Absolutely perfect — smooth running — gives added power — carries off excess heat — no soot deposit—simplest wiring system known — low current consumption — money back guarantee. Send for illustrated circular.

**THE RELIABLE FIRE EXTINGUISHER**

***Has No Equal—Used by U. S. Government and approved by the United States Steamboat Inspection Service.***

*Send for Descriptive Circular and Endorsements as to its efficiency.*

**CHAS. D. DURKEE & CO., Inc.**

***Largest Makers of Best Marine Goods in the U. S. A.***

**2 and 3 South Street New York City**

**Send 30c for postage on 1000 page Catalogue free**

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with a modern, progressive supply house, centrally located, doing business with a big, clean stock in an up-to-date plant.

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**"The Great Central Market"**

**Manufacturers and Jobbers of**

**MARINE SUPPLIES, MOTOR BOAT FITTINGS. BOAT TOPS, RACING SAILS, Etc.**

Send 20c. in stamps to cover postage on our 550-page Marine Supply Catalog No. 101, to be refunded on your first order.

If you already have the Catalog, send for our

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Ready now—issued free—an innovation in the trade.

**34-feed double compartment Detroit Force Feed Oiler**

# Largest Oiler ever built

This oiler provides for the lubrication of every part of the power plant. A separate feed goes to each part requiring lubrication, and each feed can be regulated to supply *exactly* the right amount of oil at every varying speed without further attention.

A partition divides the tank into two compartments—one for gas engine oil and one for a heavier, cheaper oil for the bearings, gears, etc.

Detroit Oilers are made for every kind of engine—marine, stationary, automobile, truck and gas tractor—with pulley rachet, gear or sprocket, drive for easy installation on any outfit.

Detroit Oilers are insurance against lubrication troubles.

Specify a Detroit Oiler on your next engine, or put one on your present outfit.

**Write today for catalog No. 64 and full information, stating in what kind of engine you are interested.**

**On sale in Canada by the Canadian Fairbanks Morse Company**

**DETROIT LUBRICATOR COMPANY**

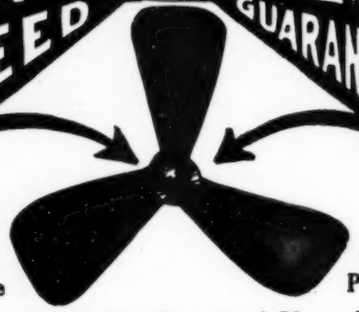
**DETROIT, U. S. A.**

***Largest Manufacturers of Lubricating Devices in the World***

DONT BLAME YOUR MOTOR. GET A

# BRYANT & BERRY PROPELLER

SPEED GUARANTEED



**We Guarantee 1 to 3 Miles Per Hour**

## To Increase the Speed of Your Boat

This is the guarantee we have been making for the past five years, the guarantee under which we have sold thousands of B. & B. propellers. This is your protection and insurance of satisfaction when you buy a B. & B. wheel. You don't have to depend on argument or unfounded claims.

B. & B. propellers give you the highest degree of speed and power your boat and engine are capable of. Their efficiency is as near perfection as it is possible to attain. They reduce the percentage of slip and produce the maximum propelling force for the horsepower used.

The materials and workmanship used in B. & B. wheels are equal in superiority to the design. We use a special bronze as strong as steel. The accuracy and finish are beyond criticism. And in spite of all this, our prices are lower than for any other make of wheel.

When you buy a propeller, get a genuine B. & B.—don't accept a substitute or imitation. Look for the name "Bryant & Berry" stamped on the hub. Certain peculiarities of design make it impossible for copies of our wheels to equal the originals in efficiency.

**BRYANT & BERRY COMPANY**

**28 WEST ATWATER ST. DETROIT, MICH.**

**Canadian Fairbanks-Morse Co., Canadian Sales Agents.**

**E. J. WILLIS CO. - - - New York Agents**

Let a Caille Portable Boat Motor take you anywhere you want to go over lake, stream or river. Can be instantly attached to square or pointed stern rowboats. Travels seven to nine miles an hour. A child can run it.

**Caille Portable Boat Motor**

is steered by a rudder like a launch—not by the propeller. Can be quickly adjusted to any angle or depth of stern. Starts with half a turn of the flywheel. Runs 7 hours on a gallon of fuel. Can be used in salt or fresh water.

**RELIABLE DEALERS WANTED**

The extensive advertising campaign we are about to launch will create a tremendous demand for these engines. We must have good live dealers everywhere to meet this demand. Send for our liberal dealer's proposition now—today—before someone else gets the territory.

**We Also Build Marine Engines Up to 30 H. P.**

These embody all sizes—from one to four cylinders. Ask for beautiful catalog. A postal brings all. Send today—now.

**CAILLE PERFECTION MOTOR CO.**
1202 Caille Street - DETROIT, MICH.



**Baldridge Reverse Gear**

Questions of Mr. Careful Gear Buyer No. 2

**"What do engine builders think of it?"**

Ask that question if you want infallible proof of any gear's worth. Then buy only the gear that has the best reputation among the greatest number of engine builders—*they know gears.*

America's and Europe's keenest and most critical engine builders use "Baldridge" gears, and so do thousands of experienced motor boatmen everywhere—they will gladly tell you why. That one fact should be enough to convince you of "Baldridge" supremacy, but there are a number of others, just as favorable, in the Baldridge book. Send for it today.

**"The Gear with the unbroken main shaft"**

**The Baldridge Gear Co.**
678 West Grand Blvd.
Detroit, Mich.

Handled in Canada by The Canadian Fairbanks-Morse Co., Ltd.

**Don't Expose Them To Danger**

You owe it to yourself, to your family and your friends to eliminate danger from your motor boat. Many a disastrous accident has been caused, many a life lost, because of a leaky gasoline tank.

**"JASCO TANKS"**

positively cannot leak. They are made seamless and leakless of drawn and tested steel. With your boat equipped with one of them you need give practically no thought to fire danger—your gasoline supply is *protected.*

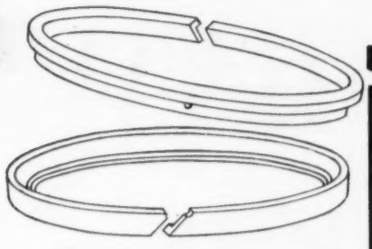
Made in all standard styles and sizes, at your dealer's or direct.

**Janney, Steinmetz & Co.**

Main Office: Philadelphia.
New York Office: Hudson Terminal Bldg.



**Finished Like a Watch**



**LEAK-PROOF Piston Rings**
(PATENTED)

have watch-spring spring and *lasting* elasticity—yet they're not steel, but the famous Processed Gray Iron. Their finish is perfect—dimensions accurate to one-half of one thousandth of an inch—finished on every face. This assures absolute snugness in every fit and the retained roundness and perfectness of the cylinder bore—therefore, no leakage.

Leak-Proof Piston Rings prevent gas leakage. They give maximum power and minimum carbonization. Gas can't escape down—oil can't go up.

Made in all sizes and sold by all up-to-date dealers, garages and repair shops.

*Now in Use on over 150,000 Automobiles and Motor Boats*

PISTON HEAD PACKING RINGS

**"ASK THE USER"**

A booklet sent free on request—complete information as to how Leaf-Proof Piston Rings can be applied to your piston problems if you'll write us.

Manufactured by
**McQUAY-NORRIS MFG. CO., Dept. B, St. Louis, Mo.**

BRANCH OFFICES

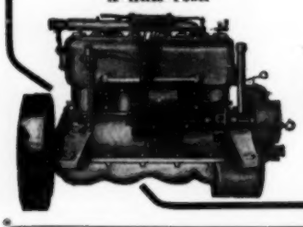
New York—53 Lincoln Square Ct. B'way at 64th St.
Pittsburgh—7620 Tioga St.
Kansas City—1504 Grand Ave.
Chicago—Suite 29, Merchants Bldg., 106 N. LaSalle St.
San Francisco—164 Hansford Bldg.
Ft. Worth—108 Bryan St.
Los Angeles—224 Central Bldg.

KERMATH Marine Motors

**4-Cycle, 4-Cylinder, 3½-inch Bore, 4-inch Stroke**

There is not a better motor made in the world to-day in this size and type, absolutely regardless of price. The quality has not been slighted even in the most minute detail, and quantity production with concentration of our entire effort on this one size makes the low price possible on such a high grade motor. This is a rich man's engine at the average man's price and combines those excellent features of perfect control from 100 to 1000 r.p.m. and the quiet and smooth operation found only in the highest priced motors.

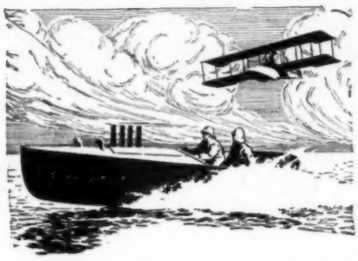
**$200.00**
With Dual Magneto
12 Horse Power



*Catalogue on Request*

**Kermath Mfg. Co.**
Detroit, Mich., U.S.A.
Dept. D

ROBERTS
The Motors That Never Backfire



**ON or OVER the WATER**

Roberts Aeroplane or Marine Motors are sure winners. Our Aeroplane Motors are the best for speed boats. Speaking of a Model 4-X (50 H.P.) Aeroplane Motor in a hydroplane, the Valley Boat and Engine Company say: "It started right off without any trouble, attained a speed of 31 miles per hour and not only worked with clock like precision all through the trials but with absolute absence of vibration."

**We build 12 sizes, 3 to 125 H. P. for kerosene or gasoline.**

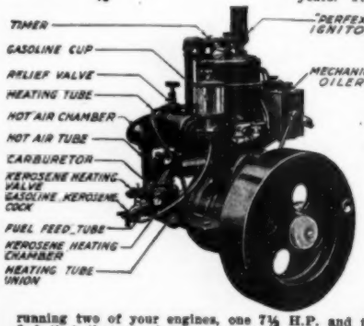
Write for full description and prices.

**THE ROBERTS MOTOR COMPANY**
**1501 Columbus Ave. Sandusky, Ohio**

**USE KEROSENE**
**Save 60% on Fuel**

No matter how rich you are, you can't afford to pay twice as much as necessary to run your marine engine. If you can't use anything but gasoline in your present engine, it will pay you to scrap it and buy a

**KNOX MARINE MOTOR**




Knox Motors have now been running on kerosene, distillate and alcohol for over three years. They are the motors that popularized the kerosene idea, the motors that proved it possible to secure perfect results.

We can guarantee 100% interest on your investment in less than twelve months, if you buy a Knox. That is what it saves on fuel alone.

Read what one user writes us:

Trinity,
Newfoundland,
May 14th, 1913.

It may interest you to know that we are running two of your engines, one 7½ H.P. and the other 5½ H.P., and find that they run better on kerosene than gasoline. For a comparison of the amount of fuel consumed, we use 10 gallons of gasoline, while we are using about 200 gallons of kerosene, the gasoline being used only for starting.

Very truly yours,
(Signed) Joseph Morris & Sons.

We make these motors in six sizes from 3 to 40 H.P., one, two, three and four cylinder, two and four cycle. Write for catalog.

**Camden Anchor-Rockland Machine Company**
CAMDEN, MAINE, U. S. A.
SALESROOMS:
130 State St., Boston, Mass. 100 Prince Wm. St., St. John, N.B.
80 E. Bay St., Charleston, S. C. Merrill's Wharf, Portland, Me.

**When You Rewire**

your boat, get Packard cable and eliminate electrical trouble.

Packard CABLE

*Send for new book*

Tells all about Electric Installations on Motor Boats. Sent postpaid for 25 cents.

**The Packard Electric Co.**
**Dept. O. (56) WARREN, OHIO**

## You Cannot Always Step Ashore

When you are miles from shore and your motor boat catches fire, your one chance of safety lies in the prompt use of Pyrene.

*Approved by the United States Steamboat Inspection Service.*

*Write for Booklet*

**PYRENE MFG. CO., 1358 Broadway, New York**

BRANCH OFFICES:

Atlanta, Baltimore, Boston, Buffalo, Chicago, Dayton, Denver, Louisville, Memphis, Norfolk, Oklahoma City, Pittsburgh, St. Louis, San Antonio, York, Neb.

PACIFIC COAST DISTRIBUTORS: Gorham Engineering Co.—San Francisco, Los Angeles, Seattle.

*To Yachtsmen Contemplating a Southern Cruise*

# LAKE DRUMMOND CANAL

**The Inland Route Connecting Chesapeake Bay and Carolina Sounds**

***PROTECTED FROM STORM***
***UNIFORM DEPTH OF WATER, 9 FEET***

Traverses the famous Dismal Swamp, of which Thomas Moore, the Irish poet, wrote wonderful and startling stories.

*Navigators recognize its advantages over other routes that are exposed to coastal storms* : :

*Supplies and telegraph, telephone and railroad connection accessible* : : : : : :

Attractive booklets and charts will be mailed to owners of yachts who are interested.

Address

**The Lake Drummond Canal and Water Co.**

**619 Seaboard Bank Building, Norfolk, Virginia**

# VIPER

Trade Mark registered in U. S. Patent Office.

## Viper IV Type

**The first shoal draught speed boat. Entirely weedless. Surface propellers and side-plate rudders. Hickman patents. Half the draught of the screw-propeller. Speed unaffected by heavy weed growths.**

No stern wheel. No tunnel stern. No screw propellers. No shaft under water. No strut. No non-lubricated outboard bearing. No projecting rudder. No rudder-stock, brackets, quadrant, tiller rope or pulleys. No torque.

VIPER IV

## Viper III Type
### Low-power Viper

The fastest hull for low and moderate powers yet devised. Built under the supervision of the designers. We are sending these boats to all parts of the world.

***Write for free Viper treatise and illustrated description of surface propeller boats.***

**The Viper Co., Ltd., Pictou, Nova Scotia, Canada**

# AMERICAN DETROIT

## Simplicity, Efficiency and Reliability

are some of the superior qualities of AMERICAN MOTORS, and are of **vital importance** to YOU. The AMERICAN is absolutely **right** in design and principle of operation, and must run **continuously** from the time you start it until you throw off the switch—it can't do anything else. YOU should own an AMERICAN and enjoy the **full** pleasure of motor boating or get **constant** service with your work or fishing boat.

**2 H. P. Complete $45**

Starboard Side

## Guaranteed for Life—30 Days' Free Trial

**Starts without cranking,** is reversible and runs on gasoline, **kerosene** or other fuel—very economical and is the one favorite with boatmen everywhere. Thousands in use and all giving perfect satisfaction and efficient service in every kind of boat.

Port Side

All sizes, 2 to 30 h. p. Lowest possible prices. Let us tell you all about the AMERICAN. Write for new Free Catalog giving full information and prices.

**Good demonstrator Agents and Boat Builders,** write for special terms and sales plan. Some valuable territory still open. **Get in on this now.**

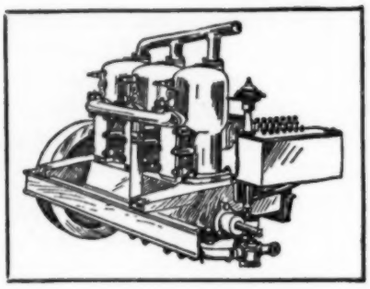
**AMERICAN ENGINE CO.,**
**484 Boston Street DETROIT, MICHIGAN**

**Why Spend Money Repairing an Old Motor When You Can Buy New Motor for Same Sum?**

**OUR LATEST FACTORY CLEAN UP**

# New Reliance Motors

**Regular Price**
**$350**
**OUR PRICE**
**$95.**



Equip your power boat with a modern, superior motor—3-cyl. valveless—2-cycle—15 H.P.—5⅛-in. bore—5-in. strokes—Complete with oiler. Other Big Bargains in Two- and Four-Cycle Motors.

CAN BE USED ON MOTOR BOATS—AS STATIONARY ENGINES—OR FOR ANY PURPOSE SUITED TO GAS ENGINES

*Write for "Our Price Wrecker"*

## TIMES SQUARE AUTO CO.

NEW YORK
S. W. Cor. 56th St. and B'way

CHICAGO
1210-1212 Michigan Ave.

World's Largest Dealers New-Used Automobiles and Accessories

# JOE'S DUPLEX DRIVE

**Heavy Duty Reverse Gear**

Section Showing Quadruple Gearing

The only heavy duty gear on the market that has **same speed ahead and astern** that does not depend on locked gear teeth for the forward drive.

Send for 1913 catalogue

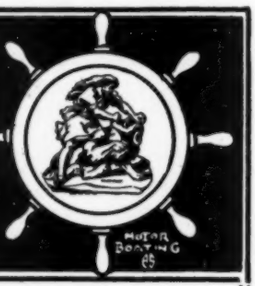
## THE SNOW & PETRELLI MFG. CO.

**New Haven, Conn., U. S. A.**

Manufacturers of Heavy Duty and High Speed Reversing Gears, One Way Clutches, Rear Starters, etc.

AGENTS:—J. King & Co., 10 Church Row, Limehouse, London, Eng. L. H. Coolidge Co., Seattle Wash. The Canadian Motor & Supplies Co., Montreal, Canada. Gasolene Engine Equipment Co., 133 Liberty Street, New York. Chicago Boat & Engine Co., 1508 Michigan Blvd., Chicago.

# SAMSON TILLER ROPE




## LAUNCH OWNERS

**Have you had any difficulty with your TILLER ROPE**

? ?

If so, it is because you haven't been using the genuine

## SAMSON TILLER ROPE

**Mail us this coupon so that we can fix you up for next year**

Name .....
Address .....
Will be interested to hear about Samson Tiller Rope

## SAMSON CORDAGE WORKS
BOSTON, MASS.

## *Sell Your Motor Boat or Motor in The Market Place*

When a man is looking for a certain article he naturally refers to the place where he will be most likely to find what he wants. Thousands of readers know of the bargains that are always listed in the MoToR BoatinG Market Place, so they look here first.

Successful advertisers follow the same course as those who are looking for something—they place their advertisements where they are most likely to be seen by prospective buyers.

MoToR BoatinG has a guaranteed circulation in excess of 25,000 copies per issue, and every copy is seen by several persons. In this way practically every motor boat enthusiast in the country is reached, as well as the principal foreign markets. In this great audience there are sure to be several prospective customers for every article you want to sell.

*We will write your advertisement if you will send full information and tell the amount of space you wish used.*

*Enclose remittance to cover size of advertisement you want, figuring at the rate of 3 cents per word, each insertion.*

***MAIL YOUR ADVERTISEMENT TODAY***

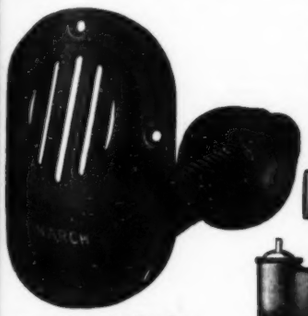
## MoToR BOATING

**J. S. HILDRETH, Adv. Mgr.**

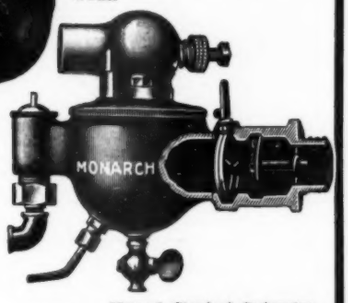
**119 W. 40th St. New York**

# IF YOU REALLY

desire to get more power out of your engines equip them with Monarch Auxiliary Air Valves and Monarch Special Carbureters. A monarch Pump Suction Connection and Strainer may save your engine or boat.

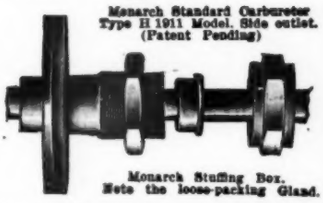


Monarch Pump Suction Connection with Strainer.




Monarch Standard Carbureter Type H 1911 Model. Side outlet. (Patent Pending)

Monarch Auxiliary Air Valve. Will increase the power of your two-cycle engine.



Monarch Stuffing Box. Note the loose-packing Gland.

Monarch Goods are Guaranteed not for 30 days, but until they are worn out. Unless Vertical Carbureters are specified, all Carbureters are shipped Horizontal Pattern. Other Specialties offered from time to time. Full information for the asking.

**MONARCH VALVE CO., 112 Front St., Brooklyn, N.Y., U.S.A.**

Member { National Association of Boat and Engine Builders / Marine Supplies Association of America



# Here's Engine SERVICE that IS Service

July, 1905, The Cleveland Cliffs-Iron Co., of Negaunee, Mich., bought a 20 H. P. Doman. The mileage is as follows:

1913..... 5,072 MILES
TO DATE..... 44,715 MILES

The owners, in writing us recently, say:—

"During this time the boat has been out of commission six (6) hours, due to a broken shaft, caused by hitting a sunken log. We are glad to give you this information, as we do not believe the performance of this engine could be excelled.

"You must understand that the boat which this engine propels is not running on a 'little inland lake' or 'duck pond,' but is operating on Lake Superior. The boat has seen service in some of the most terrific storms known on this big lake, and never for a moment has the engine faltered, when it might have meant death to all those aboard the boat."

It's just such service as this that has won renown for

The DOMAN MARINE MOTOR

and the fact that every Doman is as good or better than its reputation, makes every owner a sincere booster. If you're interested in boat power of any kind, write for catalog and the Doman "Owner's Book."

**H. C. DOMAN CO. Dept. C, Oshkosh, Wis.**

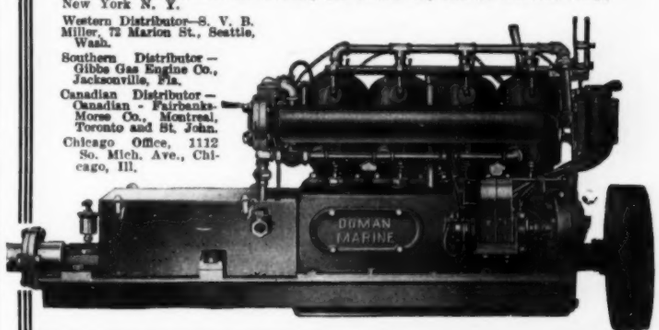
Eastern Distributor—G. H. Scanlan, 202 Fulton St., Hudson Terminal Bldg., New York N. Y.

Western Distributor—S. V. B. Miller, 72 Marion St., Seattle, Wash.

Southern Distributor—Gibbs Gas Engine Co., Jacksonville, Fla.

Canadian Distributor—Canadian-Fairbanks-Morse Co., Montreal, Toronto and St. John.

Chicago Office, 1112 So. Mich. Ave., Chicago, Ill.






EXTRA QUALITY

# MONARCH Spar Varnish

Unapproached in *lasting qualities* by any other varnish. Perfection for all outside uses.

## Gillespie's Monolac

The best varnish made for interior marine work, cabins, woodwork, floors, etc. Furnished in colors and clear.

## Monarch Bull Dog Remover

A paint and varnish remover that acts almost instantaneously on ordinary work. The only product which satisfactorily removes old lead, zinc paint, enamel or shellac. Does not burn the hands.

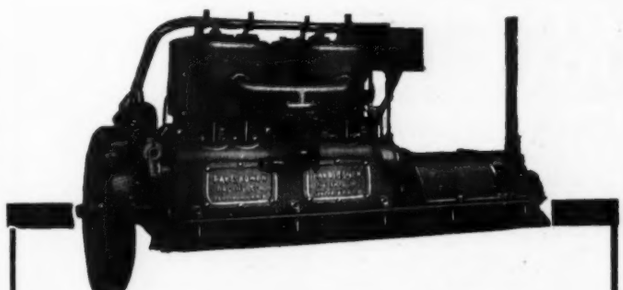
A Treatise on Refinishing Yachts and Motor Boats

This book gives invaluable advice and hints which every boatman should know. Free upon request.

*Send four cents postage for free Distance Finder for use on charts*

CHAS. H. GILLESPIE & SONS
JERSEY CITY ESTABLISHED 1824 NEW JERSEY





# It's the Power Plant

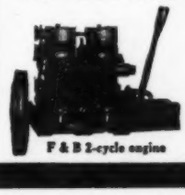
that finally makes the motor boat. The "go" has been put into many a slow boat by a

# FAY & BOWEN
## Perfect Power Plant

Its system of triple lubrication for crank pins is unique. It has Bosch Dual Magneto ignition, long stroke, mechanically operated intake and exhaust valves, mechanical and splash lubrication, multiple-plate reversing clutch. Put up in two, four and six cylinders—5 to 65 horsepower.

**F & B two-cycle Engines** are best of their kind, 2½ to 45 horsepower.

**F & B Boats** are made in different sizes and types, from a 21 ft. launch to a complete cruiser.



F & B 2-cycle engine

**Send for Catalog and Prices**

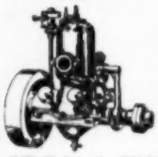
on the kind of engine or boat you want. If you don't know we'll help you decide.

**Fay & Bowen Engine Co.**
104 Lake Street Geneva, N. Y., U. S. A.

Toledo

# Marine Motors

## Low Priced. High Quality



Would you believe the man who spent his money for one? Then let us send you the evidence.

The Toledo two-cycle, two-port, marine motors that we sold years ago are still giving excellent service. No other proof is so thoroughly convincing of the high quality of our engines.

When price is considered comparatively, it is lower than other makes. The essential features are all to be found in the Toledo motors. Nothing has been left out that would add convenience, power and reliability to the motor, and all fittings are standard size, so that the motor can be installed or taken out and supplies obtained at any hardware store. No special tools are necessary to install or take down the Toledo Marine Motor. This is a decided advantage.

*Write today for catalog "W."*

| | | |
|---|---|---|
| 2 H. P. 1 | cyl. | $65.00 |
| 6 H. P. 1 | " | 84.00 |
| 6 H. P. 2 | " | 125.00 |
| 12 H. P. 2 | " | 160.00 |
| 18 H. P. 3 | " | 250.00 |

We still have some open territory where we could use a few good agents. If interested ask for proposition.

**UNIVERSAL MACHINE CO.**

**1600 Hicks St. Bowling Green, O.**

"IMPROVED MOHAWK," PLATE S-2030. (Patented—Copyrighted.)

# "SANDS'" MARINE SANITARY FIXTURES

*Standard of the World*

The "Improved Mohawk" Pump Water Closet has extra heavy Vitro-Adamant oval flushing rim straight back hopper bowl. Composition improved combined supply and waste pump, three (3) inch cylinder fitted with "Our Automatic Safety Supply Foot Valve" insuring at all times positive control of water supply.

Pump rough with polished trimmings, oak seat and cover ..... **$70.00**

Large assortment of Closets, Lavatories, Deck Plates, Ventilators, Port-lights, Basin and Galley Pumps, shown in CATALOG "B," free upon application.

1849 **A. B. SANDS & SON CO.** 1913

Largest Manufacturers in the World of MARINE PLUMBING SPECIALTIES

22-24 Vesey St. New York, U. S. A.

# Do You Wish to Save Money?

**Compare these prices with what you would pay elsewhere and see what you will save by purchasing from us**

| | | | |
|---|---|---|---|
| Set of two galv. Fresnal Glass lights for Class 1 | $2.30 | 3 x 12" Canvas Fenders | .25 |
| Set of four galv. Fresnal Glass lights for Class 2 | 4.00 | Automatic Boat Drainers | 3.50 |
| Set of four galv. Fresnal Glass lights for Class 3 | 6.00 | Pol. brass Bow Chocks, per pair | .22 |
| Schebler Carburetor, 1" size | 7.50 | Pol. brass Stern Chocks | .14 |
| Polished brass Check Valve, 1" | .90 | Power Bilge Pumps | 3.80 |
| Finished brass 5" Bell | 1.20 | Spark and Throttle Controls | 1.10 |
| Polished brass Bilge Pumps | 1.25 | 1" Dock Plates | .16 |
| Polished tin Fog Horns, 20" | .25 | 1" Stuffing Box | .65 |
| Polished brass Electric Horn | 3.60 | 1" Stern Bearing | .60 |
| Polished brass Two-tone Horn | 1.20 | Galv. Steering Wheel, 12" | .80 |
| Life preservers, government inspected | .80 | Pol. brass Steering Wheel | 1.15 |
| Mica Jump Spark Plugs, each | .25 | Switches | .12 |
| Jump Spark Coils, each | 3.00 | 10" Stillson Wrenches | .50 |
| 1" pol. brass Flush Flag Pole Sockets, per pair | .35 | Nickel-plated Comb. Pliers | .20 |
| | | Reverse Gears | 11.00 |
| | | Magnetos | 7.50 |

Free for the asking. Send for our highly illustrated catalogue.

**UNIVERSAL MOTOR BOAT SUPPLY CO.**

**Office: 287 Broadway NEW YORK CITY**

WAREHOUSES: ATLANTIC HIGHLANDS, N. J.

Distributors for Kingston Specialties, Wheeler & Schebler. Agent for Wonder Mfg. Co., Russell Elec. Co., Pyke Automatic Boat Drainers, Giles Gear Co.

# E. J. WILLIS COMPANY

**85 CHAMBERS ST. NEW YORK**

## "Wilco"

The best closet for such a reasonable price. Guaranteed for a year.

Bowl made of vitreous china—metal parts of cast brass—woodwork of finished oak.

**Cash Price, $19.90**

*Send for cut rate Catalog "B." Everything for the Motor Boat*

# KRICE Carburetor 20% More Power

30 DAYS TRIAL

We absolutely guarantee the Krice Carburetor to use less gasoline—give better control and 20% more power. Your money back if it doesn't.

The only sure way to know that you are getting *all* the power from your engine is to try a Krice Carburetor. Write today for literature.

**KRICE CARBURETOR CO.**

**1291 Oakland Ave., Detroit, Mich.**

# SPLITDORF

*"Always There"*

The SPLITDORF "T S" TRANSFORMER is interchangeable with any type tube or dash coil and can be attached to any car. We will make a very liberal allowance on an old coil in exchange for one of the new style.

*Write TO-DAY for particulars*

**SPLITDORF ELECTRICAL CO.**

**98 Warren Street, Newark, N. J.**

## "RELIANCE-ROCHESTER"

**Marine Steering Gears**

Steering Wheels for Racing Boats, Runabouts, Cruisers, and work boats. Twenty-three styles.

Indorsed by the foremost Designers and Builders.

Originators of the famous "SCORED DRUM."

Insist on having a "RELIANCE-ROCHESTER" on your boat.

Steering gears are our profession, not a side line.

We can now supply a Perfect Little one, the "BABY" RELIANCE-ROCHESTER.

Write for literature.

**W. S. HALL CO.** 923 CORTLAND ST., ROCHESTER, N. Y.

# Marine Advertisers!

**Write today for full details of the**

## Annual Buyers' Reference and Export Number of

# MoToR Boating

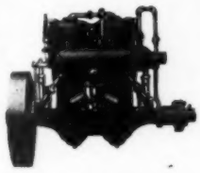
***Published December 1st***

**Also for information about the New Edition of MoToR Boating's Marine Trade Directory.**

J. S. HILDRETH, Adv. Mgr. — MoToR Boating — 119 WEST 40th ST. NEW YORK

# KENNEBEC

## Gasoline Engines



If you are one who demands full service and reliability from a marine engine, you cannot be better satisfied than by getting a Kennebec. This is an engine which will give you perfect satisfaction for years to come. It will run day after day, year in and year out, with the greatest economy and the least trouble, and you can risk your life on it if necessary, because it won't fail you.

The Kennebec Engine gives thirty to forty per cent. more horse power than its rating. We allow them ample bore and stroke and rate them honestly at moderate speeds, because an engine designed for hard, continuous service like the Kennebec must run at moderate speed if it is to have durability and give permanent satisfaction. We build power into these motors and it has got to come out.

The Kennebec is sturdy and reliable enough for the fisherman who must use it every day, and handsome enough for the finest pleasure boats. Every engine user wants Durability, Economy and Easy Accessibility no matter what type of service he requires. Ask any fisherman what he thinks of the Kennebec. If he has ever seen one working, we know what his answer will be.

*14 Models. 2 to 16 H. P. 1 to 3 Cylinders. Two Cycle.*

***WRITE TODAY FOR CATALOG***

**TORREY ROLLER BUSHING WORKS**
**BATH, MAINE, U. S. A.**

Scripps Motors are made in 2, 4 and 6 cylinder sizes. Medium and Extra Heavy Duty Types.

Send for catalogue and information about self-starters, kerosene motors, and the $500 7-horsepower Scripps Midget, a High-grade Tender Motor.

# "ANYWHERE ANY TIME"

On June 12th, we received a letter from Reading, Pa., which further emphasizes the reliability and sturdiness of the Scripps,

> "To use plain words, without any attempt at 'bravado,' I run the Scripps anywhere, any time. She is always on the job. Has been perfectly satisfactory in every way and has as yet never failed me a single time."

Hundreds of owners would not write us letters like this unless Scripps engines actually did the work we claim they will.

**Scripps Motor Company**
631 Lincoln Ave., Detroit, Mich.

SCRIPPS MOTORS ARE CARRIED IN STOCK BY

New York.....Bowler, Holmes & Hecker Co., 141 Liberty Street
Boston, Mass.....Walter H. Moreton, 218 State Street
Chicago, Ill.....O. L. Cosgrove & Co., 215-219 Englewood Ave.
Philadelphia .....W. E. Gochenaur, 631 Arch Street
Jacksonville, Fla.....Gibbs Gas Engine Co., Foot of Main Street
Seattle, Wash.....S. V. B. Miller, 72 Marion Street [entina Street
San Francisco, Cal...California Gas Engine & Motor Boat Co., 76 Clem-
Los Angeles, Cal....Marine Engine & Supply Co., 109 East 7th Street
Duluth, Minn.....Kelley Hardware Co., 118-120 W. Superior Street
Toronto, Ont.....Schofield-Holden Machine Co., 2 Carlow Avenue
New Orleans, La.....Arthur Duvic, 130 Chartres Street.



# Electric Lights for your Boat

USL
THE UNITED STATES LIGHT AND HEATING CO.

## STORAGE BATTERY

**Motor-Boat Electric Lighting** is such a simple, economical, and reliable proposition with a **U-S-L Lighting & Ignition Battery** that no Motor-Boatist can afford to be without the many advantages of electric light.

Every season more motor boats take the water equipped with **U-S-L Batteries** than the season before. Next season thousands of these Batteries will be used.

Write to-day for full information about this rugged, compact, and highly efficient Battery. It's the one Battery that makes electric light easily possible on every boat.

**The U. S. Light & Heating Co.**
**General Offices: 30 Church St., New York**

Branch Offices & Service Stations.

New York, Boston, Buffalo,
Cleveland, Detroit, Chicago.
St. Louis, San Francisco,

# THE COMPASS

Is the result of years of accumulated experience. It is built not only to be true when first used, but also to maintain that accuracy for an indefinite period. It withstands the jar of power craft and the buffeting of heavy seas. It is an oil compass, absolutely guaranteed by the monogram in the north point to be dependable under any and all atmospheric and sea conditions. The dial remains steady enough in a seaway always to indicate course, yet responds at once to any change in direction of craft. Bowl of non-porous brass-cast, coated inside with white composition that will not turn yellow; flexible diaphragm allowing for slight contraction and expansion of liquid; the card is exceptionally light in weight, supported by **jeweled** bearings on hardened steel pivot, reducing friction to the minimum, assuring accuracy, free movement always.

**If your dealer does not carry the compass, write us and we'll give you name of nearest dealer who does.**
***FREE—Our new celluloid course protractor, to boat owners. Send for one.***

**Wilcox, Crittenden & Co., Inc.**
ESTABLISHED 1847
*Largest and oldest makers of Marine Hardware in the world.*
MIDDLETOWN, CONN.

# Kahlenberg MARINE MOTORS

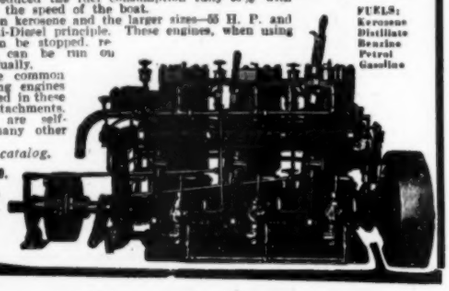
The reliability and durability of the "Kahlenberg" engine has won for it a reputation known the world over. Like a steam engine, it is reversed from full speed ahead to full speed astern without gears. The one lever throttle control is a unique feature and with it all carburetors are adjusted instantly alike, merely by one movement. This equipment also reduced the fuel consumption fully 50% with only 10% reduction in the speed of the boat.

All engines operate on kerosene and the larger sizes—55 H. P. and up operate on the semi-Diesel principle. These engines, when using this grade of fuel can be stopped, reversed, or can be run on either cylinder individually.

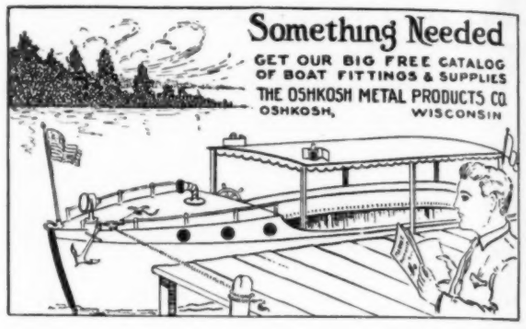
Carbon deposits—the common obstacles in oil-burning engines is practically eliminated in these machines by special attachments. Kahlenberg engines are self-starting and have many other exclusive features.

*Write today for catalog.*

FUELS: Kerosene, Distillate, Benzine, Petrol, Gasoline



Kahlenberg Bros. Co.
Monroe & 12th Sts.
Two Rivers, Wis.
U. S. A.



## Something Needed

GET OUR BIG FREE CATALOG OF BOAT FITTINGS & SUPPLIES
THE OSHKOSH METAL PRODUCTS CO.
OSHKOSH, WISCONSIN

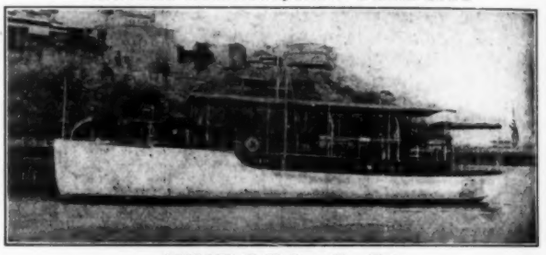
## MARINE HARDWARE

EVERYTHING NEEDED
To Equip Any Sort of Boat
Steering Wheels, Lights, Bells, Pumps, Silencers and Hermetic Battery Cases, Reverse Gears, Lights, Tanks, Mufflers, etc.

A. S. MORSS CO., 43 High Street Boston, Mass.

## New York Yacht, Launch & Engine Co.

MORRIS HEIGHTS, NEW YORK CITY



ABALONE, E. H. Lyon, New York.

Builders of
**20th CENTURY MOTORS**
12 H. P., 2 cylinder, to 100 H. P., 6 cylinder
*Send for catalogue*

Builders of
**YACHTS**
of all description
*Let us figure on your new boat*

## TRIMOUNT ROTARY BILGE PUMP

Works so fast and so easily that it is really unnecessary to have a power bilge pump on any boat. The smallest size pumps 6 gals., at 85 R. P. M.; the medium size, 10 gals., the large size, 20 gals. Small, compact, durable and never in the way. You will find Trimount Pumps on such craft as the steam yachts "O-We-Ra," "May," the auxiliary brigantine "Xarifa," "Swordfish, "Idylese III," "Barbara II," "Tec," "Pompano," "Natoma," and many similar boats. They are used in the U. S. Life Saving Service, used by leading builders like Murray & Tregurtha Co., Seabury of Morris Heights, and the prominent naval architects, Tams, Lemoine & Crane, Theodore D. Wells, etc.

Trimount Rotary Power Whistle Outfit.

The most practical boat or yacht signal made. Made entirely of bronze. Three sizes.

The signal is blown by compressed air from a Rotary Blower, driven by engine flywheel. The whistle may be placed on the blower or anywhere in the boat.

With each outfit we give a handsome nickel-plated whistle, and extra brass whistle and copper fog horn.

*Write us today for prices.*

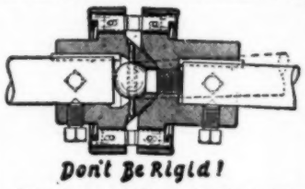
Shipped direct where we have no dealer.

*N. Y. Office 303E Hudson Terminal Building.*
PAUL D. LE VENESS, *Mgr.*

TRIMOUNT ROTARY POWER CO. 152 PEARL ST., BOSTON, MASS.

Dream, Peter Pan V, America, Sand Burr III, Go' Sum, Elfin, Bull Moose II, Baby Reliance IV, Speed Demon Reliance
are all equipped with

## FRANCKE FLEXIBLE COUPLINGS



*Don't Be Rigid!*

Eliminate Bearing Trouble.
Engines Run Faster.

QUICK SHIPMENT OF — A SIZE N POWER Y SPEED

**FOR ANY BOAT**

No Extra Thrust Bearing.
No Leaky Stuffing Boxes.
Easier to Install Engines.

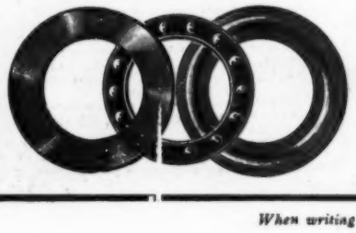
Prevents Binding of Shaft Due to Distortion of the Hull.
STOCK SIZES At Your Dealers or Address

SMITH-SERRELL CO., Inc. General Sales Agent
For THE FRANCKE CO. West Street Bldg., New York

Mr. Manufacturer:—Are you one of the few not using

## STAR THRUST BALL BEARINGS

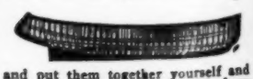
in your Motors? If you are, you are not receiving the best results. Send us your Blue Prints.



The Star Ball Retainer Company
Lancaster, Pa.

## BE YOUR OWN BOAT BUILDER

or let us build it for you with a small additional expense. Our complete up to date factory reduces the cost of production to a minimum. We build all sizes, from 9 ft. Dinghy to 60 ft. Cruiser. This illustration represents one of our latest creations. Will furnish this with or without engine installed. Should you have some spare time, we



would advise you to send for our frames and put them together yourself and thereby save 75% of cost. The illustration of frame applies to our models from 18 to 40 ft. cruisers. Other special designs submitted if desired. Send for further information and catalog and special quotations.

**Pioneer Boat & Pattern Works.**, Wharf 15, Bay City, Mich.

# 1914 MIANUS MARINE MOTORS

*All Mianus Motors delivered now are 1914 model*

Gasoline Kerosene Fuel Oil Gas Oil

*Guaranteed for Life*

STURDY AND POWERFUL

Write for BULLETIN 22 just out, and OIL ENGINE CIRCULAR

We maintain the following branches to give service to our customers

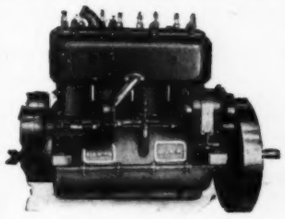
New York City: 76 Front St.
St. John, N. B.: 14 North Wharf
Norfolk, Va.: 215 Main St.
Newark, N. J.: 158 Front St.
Baltimore, Md.: 128 Market Pl.
Seattle, Wash.: 80 W. Marion St.
Boston, Mass.: 12 Commercial Wharf
Philadelphia, Pa.: Bourse Building
Jacksonville, Fla.: 724 So. Ocean St.
Portland, Me.: 29 Portland Pier
Providence, R. I.: 144 Dorrance St.
Eastport, Me.: 127 Water St.

THE MIANUS MOTOR WORKS, Stamford, Conn.



HERE IS ONE OF THE GREATEST 4-CYCLE MARINE ENGINES BUILT

# Red Wing 24 H. P. En Bloc Motor



24 H. P.; bore, 4 1/16 in.; stroke, 4½ in. Cylinders cast en bloc L type. Plunger pump circulating oiling system. Rotary circulating water pump. Develops in excess of 28 H. P. at 1500 R. P. M. Is silent and flexible. Weighs, complete, 390 lbs. or about 14 lbs. to the horse power, making it exceptionally valuable and light weight high speed boat.

Price $250.00

RED WING MOTOR CO. Red Wing, Minn.

Showing life-preserver cushions in cockpit of motor yacht.

We are making a specialty this season of our life-preserver Cushions, covered with genuine Morocco-line, with filling of Prime Java Kapoc, the lightest and most buoyant filling known.

To stimulate the early placing of orders, we will accept a limited number of orders for these cushions at a special price of seventy-five cents per square foot.

## Cushions That Fit

Manufactured since 1868, by

Life-preserver Pillow Cushion as per cut. Eighty-five cents each, or nine dollars per dozen. Size 16 x 16. Send for booklet.

M. W. FOGG
202 FRONT STREET
NEW YORK



# A NEW PRIMING COCK

Will Not Leak, Stick, nor Seize

Will Grind in Instantly

Cheaper than the troublesome old kind

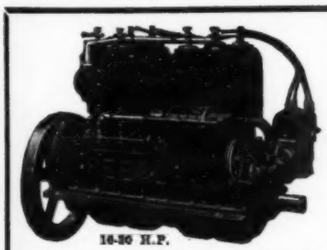
MADE BY

MORGAN MFG. COMPANY
JOHN ST. NEWPORT, R. I.

Which is a guarantee of service and quality

M'n'f'rs of Morgan's Hose Clamps and Utility Tools





16-20 H.P.

*This letter from Mr. Jenkins is a general expression of satisfaction that we receive from all PEERLESS users.*

4 Cyl. 16-20 H.P. Bore 4 in., Stroke 5 in., $300 complete.
2 Cyl. 8-10 H.P. Bore 4 in., Stroke 5 in., $175 complete.
Reverse gear on lower half of base, $40 extra.
Write today for catalog.

# PEERLESS

SECURITY MUTUAL LIFE INSURANCE CO.
Binghamton, New York.
Frederic William Jenkins
President

August 8, 1913.

Peerless Marine Motor Co.,
Buffalo, N. Y.

Gentlemen—The four-cylinder 16-20 H. P. Peerless engine that you installed in my boat this spring has worked first rate, even better than I really anticipated; it starts easily, seems to be remarkably reliable, and has lots of power. I have tried a log on this boat and get 15 miles per hour, which is very good for this type of boat.

Before buying your motor I made a personal inspection of practically all the first-class motors on the market. In making my selection it was not a matter of price, but your engine struck me as being a most complete and compact machine, and one that would prove itself reliable under all conditions.

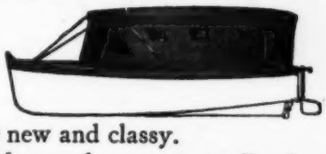
Assuring you that I will be pleased to recommend your motor at any time, I remain

Very truly yours,
F. W. JENKINS.
FWJ/N (Enclosure)

PEERLESS ENGINE COMPANY, Buffalo, N. Y.



# MOTOR BOAT TOPS



Something new and classy.
Different from the tops usually found on the market in point of *Material, Style and Finish.*
Send at once for our catalog of *Motor Boat Tops, Life Preserver Pillows, Cushions, etc.*

THE C. Z. KROH MFG. CO.
1213 JACKSON AVE. TOLEDO, OHIO



# ELECTRIC SEARCHLIGHTS

Send TODAY for Catalog "A" Containing Valuable Information About Modern Lighting Plants.

We have equipped some of the finest power boats, yachts and launches afloat with Direct Connected Generating Sets. All leading ship and launch builders use them, because they are unequaled in brilliant, dependable service.

Searchlights in designs from 7 in. to 60 in. diameter.

Let us tell you about our big lines

The Carlisle & Finch Co.
261 East Clifton Avenue
CINCINNATI, • • OHIO



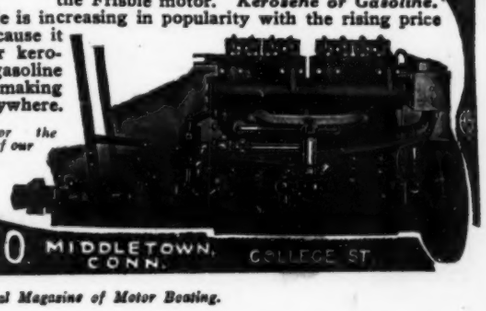
# FRISBIE MOTORS

1 to 6 Cylinder, 3 to 75 H. P., 4 Cycle, High Quality, Moderate Cost

A well-balanced combination of simplicity and economy is offered you in the Frisbie motor. *Kerosene or Gasoline.*

The Frisbie is increasing in popularity with the rising price of fuel because it uses either kerosene or gasoline and is making good everywhere.

*Write us for the name of our nearest agent.*



MFD BY THE FRISBIE MOTOR CO. MIDDLETOWN, CONN. COLLEGE ST.

# THE MOST POWERFUL LENS IN THE WORLD—

will not reveal the weakness of a marine engine.

There is just one test—SERVICE.

That is the crucible in which "Buffalo" engines have been tried for 15 years. They have stood the boat test. Ask any owner.

Unequaled reliability, lowest fuel consumption, lowest upkeep cost, dependable equipment, highest efficiency, ease in starting, steady unfailing power—these are some of the reasons why "Buffalo" engines are known the world over as——

"The Engine of Constant Service"

Nineteen models of four-stroke marine engines in slow speed, medium speed and high speed designs—3 to 150 h. p. for work boats, speed boats, launches and cruisers of all kinds. They operate on gasolene or kerosene.

*Fill in the coupon and get the "Buffalo Book."*

Date_____

*Buffalo Gasolene Motor Co.:*

Send me information concerning the best power plant for a boat of the type before which I have marked "X" and of the size here stated:

| | | | |
|---|---|---|---|
| | Auto Boat | | Racing Boat |
| | Auxiliary | | Runabout |
| | Cruiser | | Str. Paddle Wheel |
| | Fish Tug | | Tug Boat |
| | Open Launch | | Work Boat |

Length_____ Beam_____

Draft_____ Speed desired_____

Name _____

Address_____

BUFFALO GASOLENE MOTOR CO.,

1274-1286 NIAGARA STREET, BUFFALO, N. Y.

# *18,000 Miles with a Lamb Engine*

Lamb Engine owners get perfect service—the kind of service every owner wants to get from his engine. No matter when or where, how far or how short notice, every Lamb Engine is ready to start and go as far as the owner's desires carry him.

"ARIELLA," Ira C. Lambert, Owner

## A Typical Record

ROCKLEDGE, FLA., April 1st, 1913.

MR. A. E. ELDREDGE,
Lamb Engine Co. of N. Y.

Dear Sir:—We left Rockledge this morning 5.35 A. M. on our way to Toms River, N. J.

The boat has finished 18,300 miles since May 30th, 1911.

Expect to be in N. Y. 15th to 20th.

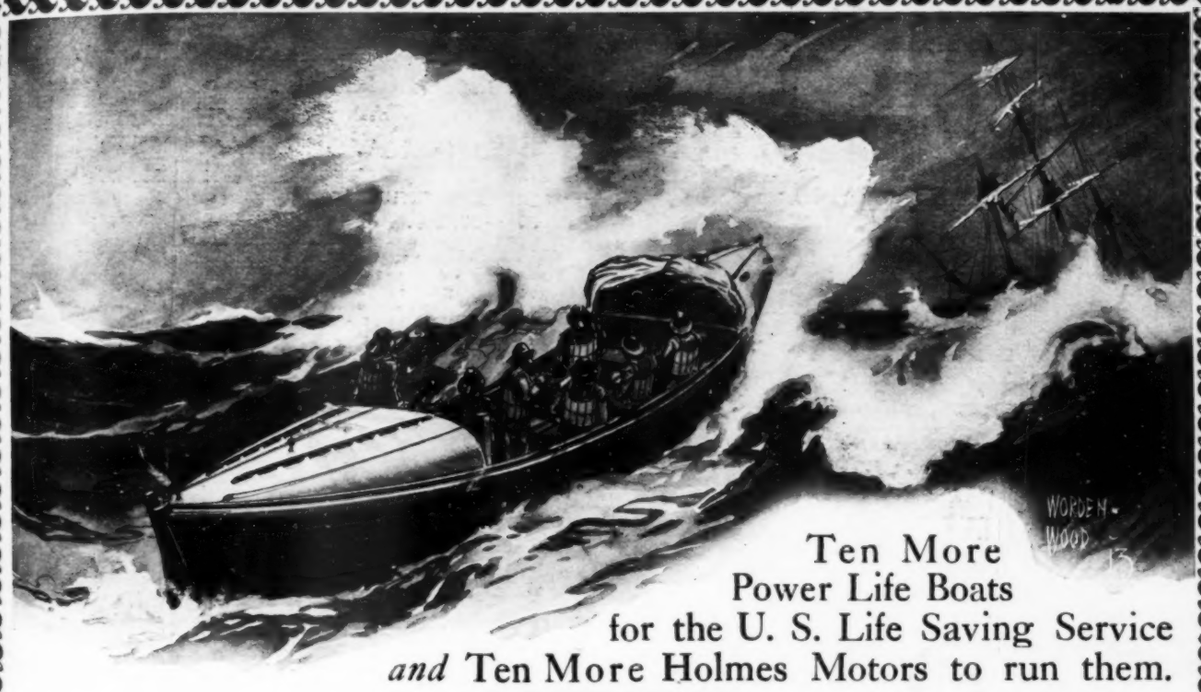
Very truly yours,
IRA C. LAMBERT.

Utmost reliability is a Lamb characteristic. Quietness and smoothness of operation, power, strength, economy, durability, freedom from troubles and repairs—all these good qualities are possessed by the Lamb in the highest degree. It is a thoroughly high grade engine in every detail of design, materials, workmanship and performance. All models are of the long stroke, four cycle type.

***10 Models. High Speed, Medium Duty, and Heavy Duty. Two, Three, Four and Six Cylinders. Twelve to Sixty-Seventy Horse-Power. Write for latest Catalog***

**Manufactured by the Lamb Engine Co., Clinton, Iowa**

**Lamb Engine Company of New York,** Eastern and Foreign Distributors 30 Church Street : : New York City




## Ten More Power Life Boats for the U. S. Life Saving Service *and* Ten More Holmes Motors to run them.

One More Power Life Boat for the Canadian Life Saving Service and Another Holmes Motor to run it. ***Send for our latest bulletins.***

**HOLMES MOTOR CO., INCORPORATED, West Mystic, Conn.**

---

*48 ft. x 10 ft. 6 in. Cruiser CHATANA. 25-35 H. P. STERLING motor installed.*

Another demonstration of Matthews' success. The following letter is written by one of the best-known automobile engineers in this country—twice the owner of a Matthews' cruiser:

THE STUDEBAKER CORPORATION, DETROIT, MICH.

THE MATTHEWS BOAT COMPANY, Port Clinton, Ohio.

Gentlemen—I have just returned from a four days' cruise on the CHATANA.

I want to thank you for building me a boat of such seaworthy qualities. We had "some" weather, but through it all the boat behaved most beautifully. Let me say to you at this time that I have never handled or been on a boat of this size that was as stable and comfortable in a heavy sea. Altogether, the boat is far beyond my expectations of a boat this size.

With kindest regards, I am,

Very truly,

JGH-ABS. (Signed) J. G. HEASLET.

*Catalogues, plans and specifications of high-grade cruisers sent upon application.*

## THE MATTHEWS BOAT COMPANY, Port Clinton, Ohio

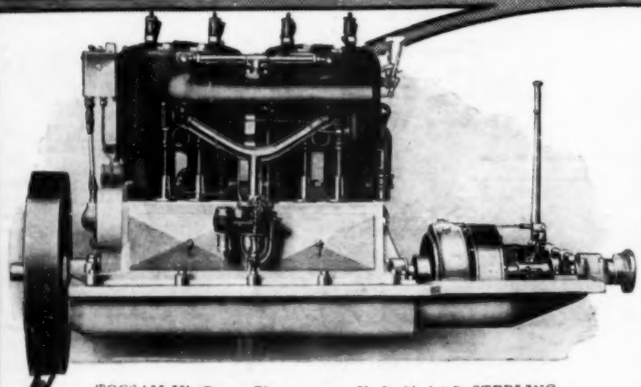
MATTHEWS CRAFT — ASK ANY OWNER

# Sterling

## THE ENGINE of REFINEMENT

*For the finest boats that float*

## CONSISTENCY



TOCSAM II's Power Plant, a 25-35 H. P. Model D STERLING. Bore 5½ in, stroke 8 in., weight 1,600 lbs.

## Another Example of Sterling Quality

One of the most notable qualities of the Sterling Engine is Consistency. It is something which can be depended upon—a factor which may be checked off the list at the very beginning so that the yachtsman may concentrate all his skill and attention upon the less reliable parts of his equipment.

For example, look at the record of "Tocsam II":

**PRIZES WON BY "TOCSAM II" TO DATE**

Won Return Race to New York from Bermuda.
Won the Ocean City Yacht Club Trophy from Bermuda to Ocean City, N. J.
Won Fourth of July first prize against Dream at Ocean City.
Won second prize in the Winter Quarter Shoals Race of 200 miles.
Won second prize in the Corinthian and Keystone Yacht Clubs Race to Cape May.
Won first prize Cape May Off Shore Race.
Won first prize Chelsea Yacht Club Cruiser Class.
Won second prize Chelsea Express Cruiser Class.
Won second prize Atlantic City Motor Boat Club Races.
Won second prize in South Jersey Association Finals.
Won Labor Day Final Races at Stone Harbor Yacht Club, first prize.

Notice the performances of Ankle Deep, Thistle, Haji, Kathleen III and other Sterling-equipped boats this year. It is simply a repetition of Sterling triumphs in former years. Ankle Deep, Count Mankowski's wonderful 32-foot hydroplane, was one of the two American entries for the Harmsworth Trophy Race this year.

Sterling Consistency is not peculiar to the Sterling Engines used in contests. It is built into every Sterling Engine before it leaves the factory. Every owner has cause to know that this is true.

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